V. Surface Water Assessments, Impaired Waters 303(d) List Submission, and the Planning List

This chapter provides the final assessment of individual surface waters, including whether the surface water will be on the 303(d) List and the basis for listing or delisting decisions. A separate table provides priority ranking and a schedule for completing TMDLs for each surface water on the 303(d) List.

The five-part assessment list

As requested in EPA's *2002 Integrated Water Quality Monitoring and Assessment Report Guidance*, ADEQ is submitting an assessment list that categorizes assessed waters into five categories **(Appendix D)**. Each surface water assessed is placed on one of the following five lists:

Part 1. Surface waters assessed as "attaining all uses," where each designated use is assessed as "attaining."

Part 2 Surface waters assessed as "attaining some uses," where each designated use is assessed as either "attaining," "inconclusive," or "threatened."

Part 3 Surface waters assessed as "inconclusive" due to insufficient data to assess any designated use (e.g., insufficient samples, sampling events or core parameters), where all designated uses are assessed as "inconclusive." This part includes waters that were "not assessed" for similar reasons.

Part 4 Surface waters assessed as "not attaining" and a Total Maximum Daily Load (TMDL) analysis will not be required at this time for one of the following reasons:

- 4 A. A TMDL has already been completed and approved by EPA but the water quality standards are not yet attained;
- 4 B. Other pollution control requirements are reasonably expected to result in the attainment of water quality standards by the next regularly scheduled listing cycle; or
- 4 C. The impairment is <u>not</u> related to a "pollutant" loading but rather due to "pollution" (e.g., hydrologic modification).

Part 5 Surface waters assessed as impaired for one of more designated uses by a pollutant. These waters must be prioritized for TMDL development **(Table 27).**

These categories can assist the state in identifying monitoring needs. For example:

- Part 1 waters will be monitored as part of the rotating watershed cycle as resources allow;
- Part 2, 3, and 4 waters are placed on the Planning List and targeted for further monitoring over the next two watershed cycles;
- Part 5 waters are placed on the 303(d) List and scheduled for monitoring to support development of a TMDL.

As illustrated in **Figure 24**, surface waters can move from one part of the list to another. The objective is to eventually have all surface waters attaining uses. (See monitoring strategies and priorities discussed in Chapter VII.)

Assessment tables, the planning list, and status of surface waters on the 1998 303(d) List

Surface water assessments are provided by watershed in **Tables 17-26**. From these tables the five-part 305(b) assessment list is prepared **(Appendix D).** These are comprehensive tables, bridging current assessments with past assessments and impaired waters identification and they provide the following information:

- Assessments for each designated use: "attaining," "inconclusive," "not attaining," or "impaired" (see criteria in Chapter III);
- Which surface waters will be on the 2002 303(d) List submitted to EPA and the pollutants of concern;
- Which surface waters will be added to the Planning List and the pollutants of concern or reason for this action;
- Which pollutants and surface waters should be removed from the 1998 303(d) List and the reasons for this action; and
- Which TMDLs are ongoing or completed.

TMDL investigations have been initiated or completed on many of the surface waters on the 1998 303(d) List. The TMDL Program is highlighted in Chapter VII and completed TMDLs are summarized in the watershed portion of this report (Volume II).

303(d) List delisting criteria -- The criteria for listing or delisting a surface water are established in the Impaired Waters Identification rule **(Appendix B)**. In general, the same amount and type of data used to place a surface water on the 303(d) List is needed to remove it from the list. For example, if two bacterial exceedances in a 3-year period put it on the list, then no exceedances in a 3-year period could remove it from the list. However, the data must be collected during similar hydrologic or climatic conditions (i.e., critical conditions) that occurred when samples were taken that indicated impairment, if those conditions still exist. All data must meet the credible data requirements. The criteria for removing a surface water from the 303(d) List can be summarized as follows:

- There is sufficient credible data to determine that the surface water is assessed as "attaining" its designated uses based on numeric and/or narrative criteria for the pollutant of concern (see criteria in Chapter III);
- A TMDL has been completed;
- An EPA approved change in the applicable surface water quality standard or designated use results in the surface water meeting standards;
- Neither the older data nor the current data is sufficient to meet the new impaired waters identification criteria. For example, there are insufficient samples collected, sampling events, or exceedances.
- Investigations reveal that impairment is not due to a pollutant or surface water quality characteristic but rather due to "pollution" or other situation that cannot be readily addressed through a TMDL (e.g., hydrologic modifications).
- Pollutant loadings from naturally occurring conditions alone are sufficient to cause a violation of applicable water quality standards.

When removed from the 303(d) List, a surface water is added to the Planning List for further monitoring or other action unless all designated uses are assessed as "attaining."

Planning List delisting criteria -- Criteria for removing a surface water or pollutant from the Planning List is also established in the Impaired Waters Identification Rule (R18-11-605.E). A surface water is removed from the Planning List based on the following criteria:

- The surface water is assessed as impaired and added to the 303(d) List; or
- There is sufficient data to determine that the surface water is "attaining" all of its designated uses.

Relating the Planning List and 303(d) List -- A surface water may be on both the Planning and 303(d) Lists due to different parameters of concern. As stated above, when a surface water is removed from the 303(d) List, it is either added to the Planning List or all designated uses are assessed as "attaining." A surface water is removed from the Planning List when all designated uses are assessed as either "attaining" or "impaired." The only way to be removed from both lists is to be assessed as "attaining" all designated uses.

Assessment terms and criteria – Criteria for assessing designated uses and surface waters are provided in **Chapter III**, along with definitions for designated uses and the "core parametric coverage." These definitions and criteria are complex, so information in Chapter III should be reviewed before looking at tables in this chapter. However, to facilitate review of the assessment tables, summary definitions of some assessment terms are provided here. Monitoring tables in **Volume II** should also be referenced when reviewing the assessments in this chapter. These monitoring tables summarize the water quality data used. Volume II also describes water quality activities in the watershed that further support these assessments.

Assessing Designated Uses

Each designated use is assessed as follows:

Attaining – All surface water quality standards are being met based on a minimum of 3 monitoring events that provide seasonal representation and core parametric coverage.

Threatened – A surface water quality standard is currently being met, but a trend analysis indicates that the surface water is likely to be impaired before the next assessment.

Impaired – A surface water quality standard is not being met based on sufficient number of samples to meet the test of impairment identified in the Impaired Waters Identification Rule (Appendix B).

Not Attaining – A designated use would be assessed as "impaired" except that a TMDL does not need to be completed for one of the following 3 reasons:
A. A TMDL has already been completed and approved by EPA
B. Other pollution control requirements are reasonably expected to result in the attainment of water quality standards by the next regularly scheduled listing cycle.
C. The Impairment is not related to a "pollutant" loading, but is caused by "pollution" (e.g. hydrologic modification).

Inconclusive – Monitoring or other assessment information available is insufficient to assess the surface water as "attaining," "threatened," "impaired," or "not attaining."

Assessing the Surface Water

The individual designated use assessments are combined to provide an assessment of the surface water and each surface water is placed on one part of the 5-part assessment list as follows:

Attaining – A) All designated uses are assessed as "attaining" **(Part 1)**, or
B) At least one designated use is assessed as "attaining" and others are assessed as "inconclusive" or "threatened" **(Part 2)**.

Inconclusive – All designated uses are assessed as "inconclusive" **(Part 3)**.

Not Attaining – One or more designated use is assessed as "not attaining" and none are assessed as "impaired" **(Part 4)**.

Impaired – One or more designated is assessed as "impaired" **(Part 5)**.

Not Assessed – Existing data is limited to one sample or data did not meet credible data requirements established in the Impaired Waters Rule (e.g., lack of quality assurance plans or sampling analysis plans, failed to follow procedures in these plans, or procedures are inadequate). In these cases, the data is summarized in the monitoring tables (in Volume II), however, an assessment is not attempted and the surface water is added to the Planning List. If standards were exceeded, the surface water and the parameters of concern are shown on the assessment tables. **(Part 3)**

Core Parametric Coverage

The following parameters must have been monitored to assess a designed use as "attaining:"

Aquatic and Wildlife: Dissolved oxygen, flow (if a stream) and depth (if a lake), pH, turbidity, total nitrogen[1], metals[2] (specifically dissolved copper, cadmium, chromium, and zinc) and hardness.

Fish Consumption: Metals[2] (specifically total mercury)

Full/Partial Body Contact: *Escherichia coli* (if FBC), fecal coliform (if PBC), pH, metals[2] (specifically total arsenic, beryllium, manganese).

Domestic Water Source: Nitrate/nitrite or nitrate, pH, fluorine (fluoride) and metals[2] (specifically total arsenic and barium).

Agriculture Irrigation: Boron, pH, and metals[2] (specifically total manganese).

Agriculture Livestock Watering: Metals[2] (specifically total copper and lead) and pH.

1. Nitrogen is required only in surface waters with nutrient standards.
2. Metals are required only at sites with current or historic mining activities in the drainage area.

Designated Uses

Designated uses are specified for stream segments and lakes in the surface water rules (A.A.C. R18-11-104 and 105). Arizona's surface water designated uses include:

Aquatic and Wildlife
Coldwater Fishery (A&Wc)
Warmwater Fishery (A&Ww)
Ephemeral Stream (A&We)
Effluent Dependent Water (A&Wedw)

Full Body Contact (FBC) (i.e., swimming)
Partial Body Contact (PBC) (i.e., non-swimming recreation)
Fish Consumption (FC)
Domestic Water Source (DWS)

Agricultural Irrigation (AgI) and
Agricultural Livestock Watering (AgL)

TABLE 17. ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE – BILL WILLIAMS WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
BILL WILLIAMS WATERSHED -- STREAM ASSESSMENTS				
Big Sandy River Deluge Wash-Tule Wash 8 miles AZ15030201-011	A&Ww Inconclusive FC Inconclusive FBC inconclusive AgL Inconclusive Part 3 — All Uses Inconclusive	Add to Planning List due to missing core parameters		
Big Sandy River Sycamore-Burro Creek 14 miles AZ15030201-004	A&Ww Attaining FC Attaining FBC Attaining AgL Attaining Part 1 — Attaining All Uses		Turbidity (A&Ww) — since 1992	Delist turbidity. No turbidity exceedances in 9 samples. Attaining all uses.
Big Sandy River Rupley Wash-Alamo Lake 10 miles AZ15030201-001	A&Ww Inconclusive FC Inconclusive FBC inconclusive AgL Inconclusive Part 3 — All Uses Inconclusive	Add to Planning List due to missing core parameters		
Bill Williams River Point B-Colorado River 15 miles AZ15030204-001	A&Ww Attaining FC Attaining FBC Inconclusive AgL Attaining Part 2 — Attaining Some Uses	Add to Planning List due to missing core parameters		
Boulder Creek headwaters - Wilder Creek 29 miles AZ15030202-006	A&Ww Inconclusive FBC Impaired FC Attaining AgI Inconclusive AgL Attaining Part 5 — Impaired	Impaired by fluoride (fluorine) Add to Planning List due to missing core parameters		Add fluoride (fluorine) to the 303(d) List.
Boulder Creek Wilder Creek-Copper Creek 3 miles AZ15030202-005A	A&Ww Impaired FBC Impaired FC Attaining AgI Inconclusive AgL Attaining Part 5 — Impaired	Impaired by arsenic, copper, and zinc. (Note that copper and zinc impair only a portion of this reach between Wilder Creek and Butte Creek.) Add to Planning List due to beryllium (see delist comment at far right) and missing core parameters.	Arsenic (A&Ww) — since 1988 Beryllium (FC) — since 1996 Copper (A&Ww) — since 1988 Lead (AgL) — since 1988 Manganese (AgI) — since 1988 Zinc (AgI, A&Ww) — since 1988 A TMDL has been completed and is being reviewed by EPA for approval. Coordination with the Bureau of Land Management and private owners is ongoing.	Keep arsenic, copper, and zinc on the 303(d) List. Arsenic exceeded standards in 19 of 69 samples (minimum to support a 303(d) listing is 11 exceedances in 69 samples). Dissolved copper exceeded standards in 2 of 69 samples and dissolved zinc exceeded standards in 2 of 4 samples. The minimum of 2 exceedances within 3 years was met to support a 303(d) listing of dissolved copper and dissolved zinc. Delist beryllium and add to the Planning List. Older data shows that beryllium exceeded standards in 5 sampling sites out of 9 during one sampling event. This does not fulfill the minimum requirement of at least 5 exceedances in 20 samples during 3 sampling events needed to support a 303(d) listing for this parameter. The laboratory reporting level for more recently collected beryllium samples was above the standard, so although beryllium was below the detection limit, these samples cannot be used to determine if standards are being attained. (Note that new beryllium standards have been submitted to EPA and when accepted, this stream will be meeting beryllium standards.) Delist lead and manganese. No exceedances in 69 samples for lead (attaining uses). Only 1 exceedance in 69 samples for manganese (attaining uses).

TABLE 17. ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE – BILL WILLIAMS WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Boulder Creek Copper Creek-Burro Creek 5 miles AZ15030202-005B	A&Ww Attaining FC Attaining FBC Inconclusive AgI Inconclusive AgL Attaining Part 2 — Attaining Some Uses	Add to Planning List due to missing core parameters.	Arsenic (A&Ww) -- since1988 Beryllium (FC) -- since1996 Copper (A&Ww) -- since1988 Lead (AgL) -- since1988 Manganese (AgI) -- since 1988 Zinc (AgI, A&Ww) -- since1988	Delist all pollutants. Splitting reach at Copper Creek because samples taken during the TMDL investigation indicate that this lower portion is attaining all uses. Upper portion to remain on the list. (See comments in reach above.)
Burro Creek Boulder Creek-Black Canyon 17 miles AZ15030202-004	A&Ww Attaining FC Attaining FBC Attaining AgL Attaining Part 1 — Attaining All Uses			
Burro Creek Francis Creek-Boulder Creek 14 miles AZ15030202-008 (Unique Waters)	A&Ww Inconclusive FC Attaining FBC Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to planning list due to: 1. Turbidity exceedances (see delist comment in the far right column) and 2. Missing core parameters.	Turbidity (A&Ww) -- since1992	Delist turbidity and place on Planning List. No current turbidity data and in older data turbidity exceeded standards in 3 samples out of 10 collected. A minimum of 5 exceedances in 20 samples in needed to support a 303(d) listing of this parameter.
Butte Creek Headwaters-Burro Creek 2.8 miles AZ15030202-163	A&Ww Inconclusive FC Attaining FBC Inconclusive AgI Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to Planning List due to missing core parameters.		
Francis Creek headwaters-Burro Creek 24 miles AZ15030202-012 (Unique Waters)	Part 3 – Not assessed. (All uses are by default inconclusive: A&Ww, FBC, FC, AgL)	Add to the Planning List due to: 1. Turbidity exceedances(see303(d) delist comments in far right column), and 2. Lack of current monitoring data.	Turbidity (A&Ww) -- since 1992	Delist turbidity. No current monitoring data and old monitoring data used as the basis for listing would indicate that the reach is “attaining” its uses, as only 2 exceedances in 12 samples. (Note: A minimum of 3 exceedances in 10 samples is needed to be added to the Planning List and a minimum of 5 exceedances in 20 samples to support a 303(d) listing for this parameter.)
Santa Maria River South Fork-Bridle 14 miles AZ15030203-010	A&Ww Attaining FC Attaining FBC Attaining AgL Attaining Part 1 -- Attaining All Uses			
Trout Creek Cow Creek-Knight Creek 32 miles AZ15030201-014	A&Ww Attaining FC Attaining FBC Attaining AgL Attaining Part 1 -- Attaining All Uses			
Wilder Creek headwaters-Boulder Creek 15 miles AZ15030202-007	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to Planning List due to missing core parameters.		

TABLE 17. ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE – BILL WILLIAMS WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
BILL WILLIAMS WATERSHED -- LAKE ASSESSMENTS				
Alamo Lake 1,414 acres AZL15030204-0040	A&Ww Impaired FC Attaining FBC Impaired AgL Impaired Part 5 -- Impaired Trophic status not calculated	Impaired by high pH, sulfide, and dissolved oxygen	Sulfide (A&Ww) -- since 1996 High pH (A&Ww, FBC, AgL) -- since1996 Narrative toxicity standard (A&Ww) -- since1998	Keep sulfide, pH, and dissolved oxygen on the 303(d) List. Sulfide standards were exceeded in 14 out of 34 samples; pH did not meet standards in 8 out of 43 samples, and dissolved oxygen did not meet standards in 8 out of 43 samples. (Minimum to support a 303(d) listing of these parameters is 8 exceedances if 43 samples are collected.)
		Add to the Planning List to monitoring mercury in fish tissue due to potential narrative toxicity violation (see 303(d) Listing comment in far right column).		Delist mercury. A listing for mercury would require approved narrative toxic procedures that support fish tissue screening values to protect aquatic and wildlife or human fish consumption. Such procedural documents have not yet been adopted through a public process. (Note that a fish consumption advisory has <u>not</u> been issued.)

*See Volume II Table 4, starting on page BW - 7, for more monitoring data and further details concerning the basis of each assessment.

TABLE 18. ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE – COLORADO-GRAND CANYON WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
COLORADO-GRAND CANYON WATERSHED – STREAM ASSESSMENTS				
Beaver Dam Wash Utah border-Virgin River 10 miles AZ15010010-009	A&Ww Inconclusive FC Inconclusive FBC inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to insufficient sampling events (only 1 sampling event and need a minimum of 3 events).		
Boucher Creek California border-Colorado River 4 miles AZ15010002-017	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Chuar (Lava) Creek headwaters-Colorado River 8 miles AZ15010001-024	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans), and missing core parameters.	Turbidity (A&Wc) -- since 1998	Delist turbidity, as turbidity is solely due to natural background conditions. The Grand Canyon National Park Service hydrologist indicates that this remote stream does not have grazing or other anthropogenic sources of turbidity and that the turbidity can be attributed to the sandstone geology of the drainage area.
Clear Creek headwaters-Colorado River 11 miles AZ15010001-025	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans), and missing core parameters.		
Colorado River Lake Powell-Paria River 16 miles AZ14070006-001	A&Wc Attaining FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses	Add to the Planning List due to selenium (see delist comment in the far right column).	Selenium (A&Wc) -- since 1998	Delist selenium and add to the Planning List because of insufficient samples determine if meeting chronic standards (listing requires that the mean of four (4) consecutive days exceed the chronic standard). Monitoring data does not include any four-day sampling events. (Note that the geometric mean of the last four samples did not exceed the chronic standard. Therefore, chronic standards would be in compliance using the methods proposed in Arizona's surface water quality standards submitted to EPA for approval in 2002.)
Colorado River Parashant-Diamond Creek 28 miles AZ15010002-003	A&Wc Impaired FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 5 -- Impaired	Impaired by turbidity. Add to the Planning List due to missing core parameters.	Turbidity (A&Wc) -- 1998	Keep turbidity on the 303(d) List. Turbidity standards were exceeded in 15 out of 32 samples collected. (This satisfies the minimum of 6 exceedances in 32 samples to support a 303(d) listing of this parameter.)
Crystal Creek headwaters-Colorado River 17 miles AZ15010002-018	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans), and missing core parameters.		
Deer Creek headwaters- Colorado River	Part 3 -- Not assessed (All uses are inconclusive by	Add to Planning List as current data did not fulfill credible data		

TABLE 18. ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE – COLORADO-GRAND CANYON WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
9 miles AZ15010002-019	default: A&Wc, FBC, FC)	requirements (lack of Quality Assurance Plans), and missing core parameters.		
Garden Creek headwaters-Colorado River 3 miles AZ15010002-841	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans), and missing core parameters.		
Havasu Creek Little Coyote-Colorado River 3 miles AZ15010004-001	Part 3 -- Not assessed (All uses are inconclusive by default: A&Ww, FBC, FC)	Add to the Planning List due to: 1. Turbidity (see delist comment for the 303(d) List in the far right column), and 2. Lack of current monitoring data.	Turbidity (A&Wc) -- since 1996	Delist turbidity and add it to the Planning List. No current data. Older turbidity data had insufficient samples and exceedances to support listing as only 2 samples out of 10 collected exceeded standards. For turbidity, this is considered attaining standards. (Note, a minimum of 3 exceedances in 10 samples is needed to be added to the Planning List and 5 exceedances in 20 samples is needed to merit 303(d) listing for this parameter.)
Hermit Creek headwaters-Colorado River 6 miles AZ15010002-020	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to the Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Kwagunt Creek headwaters-Colorado River 9 miles AZ15010001-031	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Monument Creek headwaters-Colorado River 4 miles AZ15010002-845	Part 3 -- Not assessed (All uses are inconclusive by default: A&Ww, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Nankoweap Creek headwaters-Colorado River 9 miles AZ15010001-033	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
National Canyon Creek headwaters-Colorado River 3 miles AZ15010002-016	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Paria River Utah border-Colorado River 29 miles AZ14070007-123	A&Wc Attaining FC Attaining FBC Attaining Part 1 -- Attaining All Uses		Beryllium (FBC) -- since1996 Turbidity (A&Wc) -- since1996 Ongoing TMDL investigation.	Delist beryllium and turbidity. No exceedances of beryllium standards out of 35 samples. TMDL investigation revealed that high turbidity is a natural condition due to natural erosion of sandstone cliffs in the drainage. Much of the Paria River in Arizona flows through a Wilderness area where BLM has implemented several strategies to protect the natural resources, such as excluding grazing and limiting the

TABLE 18. ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE – COLORADO-GRAND CANYON WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
				number of people entering the area. These actions will further minimize any anthropogenic sources.
Royal Arch Creek headwaters-Colorado River 6 miles AZ15010002-871	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Saddle Canyon Creek headwaters-Colorado River 12 miles AZ15010002-703	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Shinumo Creek headwaters-Colorado River 20 miles AZ15010002-029	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Spring Canyon Creek headwaters-Colorado River 6 miles AZ15010002-318	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Tapeats Creek headwaters-Colorado River 13 miles AZ15010002-696	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Three Springs Creek headwaters-Colorado River 1 mile AZ15010002-1180	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC, DWS, AgI, AgL)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Vasey's Paradise (Spring) at Colorado River 0.2 miles AZ15010001-SP01	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC)	Add to Planning List as current data did not fulfill credible data requirements (lack of Quality Assurance Plans) and missing core parameters.		
Virgin River Beaver Dam Wash-Big Bend Wash 10 miles AZ15010010-003	A&Ww Impaired FC Inconclusive FBC Inconclusive AgI Impaired AgL Impaired Part 5 -- Impaired	Impaired by turbidity and fecal coliform Add to the planning list due to: 1. *Escherichia coli* (exceeded standards in 1 of 5 samples) and 2. Missing core parameters.	Turbidity (A&Ww)-- since1990 (Note that most of the drainage is in Utah, so a TMDL will require a cooperative investigation with Utah.)	Turbidity and fecal coliform should be on the 303(d) List. Turbidity standards were exceeded in 8 out of 23 samples, which meet minimum of 5 exceedances in 23 samples for listing. Fecal coliform standards were exceeded in 2 out of 15 samples, and met listing requirement of 2 exceedances in 3 years.

TABLE 18. ASSESSMENTS, PLANNING LIST, AND 303(d) STATUS TABLE – COLORADO-GRAND CANYON WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
COLORADO-GRAND CANYON WATERSHED – LAKE ASSESSMENTS				
Lake Powell 9,770 acres AZL14070006-1130	A&Ww Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive Trophic status not calculated	Add to the Planning List due to missing core parameters		

*See Volume II Table 7, starting on page CG - 7, for more monitoring data and further details concerning the basis of each assessment.

Table 19. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – COLORADO-LOWER GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
COLORADO-LOWER GILA WATERSHED – STREAM ASSESSMENTS				
Colorado River Hoover Dam-Lake Mohave 41 miles AZ15030101-015	A&Ww Attaining FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameters.		
Colorado River Bill Williams River-Osborne 13 miles AZ15030104-020	A&Ww Attaining FC Attaining FBC Attaining DWS Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses			
Colorado River Indian Wash-Imperial Dam 18 miles AZ15030104-001	A&Ww Attaining FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameters.		
Colorado River Main Canal-Mexico border 32 miles AZ15030107-001	A&Ww Attaining FC Attaining FBC Attaining DWS Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses		Turbidity (A&Ww) – since 1994	Delist turbidity. No turbidity exceedances in 26 samples.
Gila River Coyote Wash-Fortuna Wash 28 miles AZ15070201-003	A&Ww Attaining FC Attaining FBC Attaining AgL Attaining AgI Inconclusive Part 3 -- Attaining Some Uses	Add to the Planning List due to boron (see delist comment for the 303(d) List in far right column)	Boron (AgI) – since 1990 Turbidity (A&Ww) – since 1994	Delist boron and add it to the Planning List for further monitoring. Boron standard was exceeded in 4 samples out of 20 collected. (303(d) listing for this parameter requires at least 5 exceedances in 20 samples). Delist turbidity. No exceedances in 20 samples.
COLORADO-LOWER GILA WATERSHED – LAKE ASSESSMENTS				
Lake Havasu (Except London Bridge Beach) 186 acres AZL15030101-0590A	A&Ww Attaining FC Attaining FBC Attaining DWS Attaining AgL Attaining Part 1 -- Attaining All Uses Oligotrophic		Turbidity (A&Ww) – since1996	Delist turbidity. Turbidity was found to be “attaining” standards after collecting 112 temporally/ spatially independent samples between 1996-2000. Turbidity did exceed standards during one sampling event at 5 sites; however, at 4 of these sites the median and mean values for turbidity on that date were below the standard and were therefore assessed as attaining uses.
Lake Havasu	A&Ww Attaining			Delist Escherichia coli and place on Planning List because there have

Table 19. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – COLORADO-LOWER GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
London Bridge Beach in Thompson Bay 150 acres AZL15030101-0590B	FC Attaining FBC Attaining DWS Attaining AgL Attaining Part 1 -- Attaining All Uses Oligotrophic		*Escherichia coli* (FBC) – since 1996	been no beach closures in the past two years of data (2000 and 2001) and bacterial samples have met standards. (Note that past 303(d) listing was based on beach closures caused by high bacterial levels.)
Lake Mohave 12,850 acres AZL15030101-0960	A&Ww Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgL Inconclusive AgI Inconclusive Part 3 -- Inconclusive Oligotrophic	Add to the Planning List due to missing core parameters.		
Painted Rock Borrow Pit Lake 180 acres AZL15070201-1010	A&Ww Impaired FC Inconclusive FBC Attaining AgI Impaired AgL Impaired Part 5 -- Impaired Trophic status not calculated.	Add to the Planning List due to fish consumption advisory for DDT metabolites, toxaphene, dieldrin, and chlordane (see comment in the far right column).	DDT metabolites (FC) -- since 1988 Toxaphene (FC) -- since 1988 Dieldrin (FC) -- since 1988 Chlordane (FC) -- since 1988 Preliminary TMDL investigations ongoing through Arizona's WQARF (state Superfund) Program.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. Indication of narrative standards violations but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute and Impaired Waters Identification Rule (see Appendix B – 49-232.F and R18-11-605.C.3).
		Impaired by low dissolved oxygen, and high fecal coliform	Dissolved oxygen (A&Ww) -- since 1992 Turbidity (A&Ww) -- since 1992 A diagnostic feasibility study was completed in 1992 that can be used to develop a TMDL. That study attributed low dissolved oxygen to the design and maintenance of the lake and drying out of the lake during droughts.	Low dissolved oxygen and fecal coliform need to be on the 303(d) List. Dissolved oxygen standards were not met in 7 samples out of 30 collected, meeting listing minimum of 6 exceedances in 30 samples. Fecal coliform standards were exceeded in 5 samples out of 21 collected, meeting the listing requirement of 2 exceedances in 3 years.
				Delist turbidity. No exceedances in 25 samples.

*See Volume II Table 10, starting on page CL - 7, for more monitoring data and further details concerning the basis of each assessment.

TABLE 20. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – LITTLE COLORADO-SAN JUAN WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
LITTLE COLORADO-SAN JUAN WATERSHED – STREAM ASSESSMENTS				
Barbershop Canyon Creek headwaters-East Clear Creek 10 miles AZ15020008-537	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to Planning List due to need for more sampling events and missing a core parameter		
Billy Creek headwaters-Show Low Creek 19 miles AZ15020005-019	A&Wc Inconclusive FC Attaining FBC Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameters.		
Buck Springs Canyon Creek headwaters-Leonard Canyon 7 miles AZ15020008-557	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. Turbidity and pH standards not being met in 1 sample out of 1 collected, 2. Missing core parameters, and 3. Need for more sampling events.		
Chevelon Creek headwaters-West Chevelon Cr. 32 miles AZ15020010-006	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. Dissolved oxygen not meeting standards in 1 sample out of 6 collected and 2. Missing core parameters.		
Chevelon Creek Black Canyon-Little Colorado R. 19 miles AZ15020010-001	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FC, FBC, AgI, AgL.)	Add to the Planning List due to: 1. Turbidity exceedances (see 303(d) delist comment in far right column), and 2. Lack of current monitoring data.	Turbidity (A&Wc) – since 1994	Delist turbidity and add to the Planning List. Insufficient turbidity samples collected. No current data. Turbidity exceeded standards in 11 samples out of 13 collected in older data. 303(d) listing requires a minimum of 5 exceedances in 20 samples for this standard.
Hall Creek headwaters-Little Colorado 14 miles AZ15020001-012	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. Dissolved oxygen not meeting standards in 1 out of 1 sample, 2. Missing core parameters, and 3. Lack of monitoring events.		
Little Colorado River Water Canyon-Nutrioso Creek 4 miles AZ15020001-010	A&Wc Inconclusive FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to turbidity exceedances (see 303(d) delist comment in the far right column).	Turbidity (A&Wc) – since 1992	Delist turbidity and add to the Planning List. Insufficient turbidity samples collected. In current data, turbidity standards were exceeded in 5 of 6 samples. In older data (collected between 1994-1995), turbidity standards were exceeded in 6 samples out of 11 collected (in 1994-2000). Even combined, the minimum of 20 samples has not been met to support this 303(d) listing.
Little Colorado River Nutrioso Creek-Carnero Wash 12 miles AZ15020001-009	A&Wc Inconclusive FC Attaining FBC Attaining AgI Attaining	Add to the Planning List due to turbidity exceedances (see 303(d) delist comment in the far right column).	Turbidity (A&Wc) -- since 1992	Delist turbidity and add to the Planning List. Insufficient turbidity samples collected. In current data, turbidity standards were exceeded in 5 of 7 samples, but a minimum of 5 exceedances in 20 samples is needed to support a 303(d) listing for this standard.

TABLE 20. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – LITTLE COLORADO-SAN JUAN WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
	AgL Attaining Part 2 -- Attaining Some Uses			
Little Colorado River Porter Tank-McDonalds Wash 17 miles AZ15020008-017	A&Ww Impaired FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 5 -- Impaired	Impaired by copper and silver Add to the Planning List to obtain current monitoring data.	Copper (A&Ww) -- 1992 Silver (A&Ww) – 1992 ADEQ initiated a TMDL investigation in 2002	Keep copper and silver on the 303(d) List. Although no current monitoring data, original data used to base the 303(d) listing meets current 303(d) listing requirements, as dissolved copper exceeded standards in 9 samples in a 3-year period and dissolved silver exceeded standards in 2 samples in a 3-year period. (For these toxic parameters, a minimum of 2 exceedances in 3 years is needed to support a 303(d0 listing.)
Little Colorado River Silver Creek-Carr Wash 6 miles AZ15020002-004	A&Ww Inconclusive FC Attaining FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 2 -- Attaining Some Uses	Add to the Planning List due to beryllium, turbidity, fecal coliform, and *Escherichia coli* exceedances (see 303(d) delist comments in the far right column). Both the fecal coliform and *Escherichia coli* standard were exceeded in 1 sample out of 7 collected.	Beryllium (FBC) – since 1994 Lead (AgL) – since 1994 pH (A&Ww, FBC, DWS, AgI, AgL) – since 1994 Turbidity (A&Ww) – since 1994	Delist beryllium, lead, pH, and turbidity from the 303(d) List. Add beryllium and turbidity to the Planning List. Out of 12 samples, beryllium exceeded standards in 3 samples, turbidity exceeded standards in 8 , lead only exceeded standards in 2 samples, and pH did not exceed standards in 12 samples. Lead and pH were assessed as attaining standards with fewer than 3 exceedances in 10 samples. A minimum of 5 exceedances out of 10 samples is needed to support a 303(d) listing of either the beryllium or turbidity.
Nutrioso Creek headwaters-Picnic Creek 27 miles AZ15020001-017	A&Wc Not attaining FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 4A -- Not attaining	Add to the Planning List to evaluate the effectiveness of turbidity TMDL implementation strategies.	Turbidity (A&Wc) – since1992 TMDL completed and approved by EPA in 2000.	Delist turbidity and add to the Planning List. A turbidity TMDL was approved by EPA in 2000. A local stakeholder is currently implementing strategies to bring the surface water into compliance with standards. This will be followed by an effectiveness monitoring phase.
Nutrioso Creek Picnic Creek-Little Colorado River 4 miles AZ15020001-015	A&Wc Not attaining FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 4A -- Not attaining	Add to the Planning List to evaluate the effectiveness of turbidity TMDL implementation strategies.	Turbidity (A&Wc) – since 1992 TMDL completed and approved by EPA in 2000.	Delist turbidity and add to the Planning List. A turbidity TMDL was approved by EPA in 2000. A local stakeholder is currently implementing strategies to bring the surface water into compliance with standards. This will be followed by an effectiveness monitoring phase.
Porter Creek headwaters-Show Low Creek 4 miles AZ15020005-246	A&Wc Inconclusive FC Attaining FBC Inconclusive Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameters.		
Show Low Creek headwaters-Linden Wash 41 miles AZ15020005-012	A&Wc Inconclusive FC Attaining FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 2 -- Attaining Some Uses	Add to the Planning List due to: 1. Turbidity exceedances (see 303(d) delist comment in the far right column), and 2. Missing core parameters.	Dissolved oxygen (A&Wc) -- since 1992 Turbidity (A&Wc) – since 1992	Delist dissolved oxygen and turbidity and add turbidity to the Planning List. No dissolved oxygen exceedances in 10 samples. No current turbidity data, but turbidity exceeded standards in 15 out of 16 samples in older data. However, need a minimum of 20 samples to support a 303(d) listing due to turbidity.
Silver Creek headwaters-Show Low Creek 34 miles AZ15020005-013	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
Silver Creek	Part 3 -- Not assessed	Add to the Planning List due to:		Delist turbidity and add to Planning List. No current data. Original

TABLE 20. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – LITTLE COLORADO-SAN JUAN WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Seven Mile Draw-Little Colorado 9 miles AZ15020005-001	(All uses are inconclusive by default: A&Wc, FC, FBC, AgI, AgL)	1. Turbidity exceedances (see 303(d) delist comment in far right column), and 2. Lack of current monitoring data.	Turbidity (A&Wc) -- since 1990	turbidity data exceeded standards in 13 samples out of 13 collected; however, need a minimum of 5 exceedances in 20 samples to support a 303(d) listing of based on this standard.
Walnut Creek Pine Lake-Rainbow Lake 9 miles AZ15020005-238	A&Wc Inconclusive FC Attaining FBC Inconclusive AgL Inconclusive Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameters.		
West Fork Little Colorado River headwaters-Government Springs 8 miles AZ15020001-013A (Unique Waters)	A&Wc Inconclusive FC Inconclusive FBC Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to Insufficient sampling events (need a minimum of 3 sampling events to assess).		
West Fork Little Colorado River Government Springs-Little Colorado River 1 mile AZ15020001-013B	A&Wc Attaining FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses			
Willow Creek headwaters-East Clear Creek 32 miles AZ15020008-011	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to: 1. Missing core parameters, and 2. Need to use a mercury laboratory reporting limit lower than the standard.		
Willow Spring Creek headwaters-Chevelon Creek 9 miles AZ15020010-240	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to need for more sampling events and missing core parameters.		
Woods Canyon Creek headwaters-Chevelon Creek 13 miles AZ15020010-084	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. Dissolved oxygen not meeting standards in 1 out of 2 samples, 2. Insufficient sampling events, and 3. Missing core parameters.		
LITTLE COLORADO-SAN JUAN WATERSHED – LAKE ASSESSMENTS				
Clear Creek Reservoir 29 acres AZL15020008-0340	A&Wc Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Attaining Part 2 -- Attaining Some Uses Trophic status not calculated	Add to the Planning List due to: 1. Missing core parameters, and 2. Need to use a mercury laboratory detection limit lower than the standard.		

TABLE 20. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – LITTLE COLORADO-SAN JUAN WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			303(d) LIST	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Cholla Lake 130 acres AZL15020008-0320	A&Wc Inconclusive FC Attaining FBC Inconclusive AgL Attaining Part 2 -- Attaining Some Uses Trophic status not calculated	Add to the Planning List due to 1. Missing core parameters, and 2. Need to use a mercury laboratory detection limit lower than the standard.		
Lake Mary (lower) 860 acres AZ15020015-0890	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 – Inconclusive Trophic status not calculated	Add to the Planning List due to: 1. Mercury fish consumption advisory established in 2002, and 2. Lack of current water chemistry monitoring data.		
Lake Mary (upper) 760 acres AZ15020015-0900	A&Wc Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3 – Inconclusive Trophic status not calculated	Add to the Planning List due to: 1. Mercury fish consumption advisory established in 2002, and 2. Lack of current water chemistry monitoring data.		
Lee Valley Reservoir 38 acres AZL15020001-0770	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive Trophic status not calculated	Add to the Planning List due to: 1. pH not meeting standards in 2 out of 4 samples, 2. Missing core parameters, and 3. Need to use mercury laboratory detection limit lower than the standard.		
Long Lake (lower) 323 acres AZL15020008-0820	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive Trophic status not calculated	Add to the Planning List due to missing core parameters and lack of seasonal coverage.		
Lyman Lake 1307 acres AZL15020001-0850	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 – Inconclusive Trophic status not calculated	Add to the Planning List due to missing core parameters and lack of seasonal coverage.		
McKay Reservoir 12 acres AZL15020001-0007	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive	Add to the Planning List due to: 1. Dissolved oxygen and pH not meeting standards in 1 out of 1 sample, 2. Missing core parameters, and		

TABLE 20. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – LITTLE COLORADO-SAN JUAN WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
	Part 3 -- Inconclusive Trophic status not calculated	3. Need for more sampling events.		
Nelson Reservoir 67 acres AZL15020001-1000	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive Trophic status not calculated	Add to the Planning List due to 1. Need for more sampling events and 2. Missing core parameters.		
Rainbow Lake 111 acres AZL15020005-1170	A&Wc Not attaining FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 4A -- Not attaining Trophic status not calculated	Add to the Planning List due to: 1. Need to valuate effectiveness of the nutrient and pH TMDL strategies, and 2. Fish kill in 1997 related to algal bloom and low dissolved oxygen may indicate a narrative toxic standards violation.	Narrative nutrients (A&Wc) pH (A&Wc, FBC, AgI, AgL) Nutrient and pH TMDL completed and approved by EPA in 2000.	Delist narrative nutrients and pH and add to the Planning List as a TMDL has been completed and approved by EPA. In the TMDL strategy implementation phase.
Woods Canyon Lake 70 acres AZL15020010-1700	A&Wc Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive Trophic status not calculated	Add to the Planning List due to: 1. pH not meeting standards in 1 out of 1 sample collected, 2. Missing core parameters, and 3. Need for more sampling events.		

*See Volume II Table 13, starting on page LCR - 7, for more monitoring data and further details concerning the basis of each assessment.

TABLE 21. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – MIDDLE GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
MIDDLE GILA WATERSHED -- STREAM ASSESSMENT				
Agua Fria River Big Bug-Squaw Creek 16 miles AZ15070102-023	Part 3 -- Not assessed (All designated uses are inconclusive by default: A&Ww, FBC, FC, DWS, AgI, AgL.)	Add to Planning List due to: 1. Turbidity standard exceeded in old data (see comment in the far right column), and 2. Lack of current monitoring data.	Turbidity (A&Ww) -- since1996.	Delist turbidity and add it to Planning List. No current monitoring data and older turbidity data exceeded standards in 3 samples out of 17 collected. A minimum of 5 exceedances out of 20 samples is needed to support a 303(d) listing based on this standard.
Arizona Canal below last WTP intake	AgI Inconclusive AgL Inconclusive	Add to the Planning List due to		

TABLE 21. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – MIDDLE GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
2 miles AZ15060106B-099B	Part 3 -- Inconclusive	missing core parameters.		
Arizona Canal Granite Reef Dam-last WTP intake 33 miles AZ15060106B-099A	DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
Buckeye Canal 18.8 miles AZ15070103-090	AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to DDE standard exceeded in 1 sample out of 1 collected and missing core parameters.		
Consolidated Canal Above last WTP intake 9 miles AZ15050100-074A	DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
Dripping Spring Wash headwaters-Gila River 20 miles AZ15050100-011	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
Eastern Canal Below last WTP intake 9 miles AZ15050100-207B	AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
Eastern Canal Above last WTP intake 7 miles AZ15050100-207A	DWS inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
French Gulch headwaters-Hassayampa River 10 miles AZ15070103-239	A&Ww Impaired FC Inconclusive FBC Impaired AgI impaired AgL Impaired Part 5 – Impaired	Impaired by copper, manganese and zinc. Add to the Planning List due to 1. Beryllium standard exceeded in 1 out of 7 samples and 2. Missing core parameters.	Cadmium (A&We, PBC) -- since1994 Copper (A&We) -- since1994 Manganese (PBC) -- since1994 pH (A&We, PBC) -- since1994 Zinc (A&We) -- since1994 TMDL investigation and sampling are ongoing.	Keep copper, manganese, and zinc on the 303(d) List. Dissolved copper exceeded standards in 80 out of 135 samples, total manganese exceeded standards in 110 out of 140 samples, and dissolved zinc exceeded standards in 66 out of 135 samples. To support a 303(d) listing, a minimum of 2 exceedances in 3 years was clearly met for dissolved copper and zinc, and a minimum of 20 exceedances (when 135 samples) was also met for listing manganese. Delist pH and cadmium. No exceedances in 141 samples.
Galena Gulch headwaters-Agua Fria River 6 miles AZ15070102-745	Part 3 – Not assessed (All designated uses are inconclusive by default: A&Ww, PBC, AgL)	Add to the Planning List due to 1. Cyanide standard exceeded in older data (see 303(d) delist comment in far right column), and	Cyanide (A&Ww) – since 1992	Delist cyanide and add it to the Planning List. No current cyanide data. Sampling Analysis Plans for the original sampling sites (1990-1991) could not be located and there is some question as to whether the sample locations were representative of in-stream water

TABLE 21. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – MIDDLE GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
		2. Lack of current monitoring data.		quality conditions; therefore, older data could not meet current credible data requirements.
Gila River Dripping Spring-San Pedro River 11 miles AZ15050100-009	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
Gila River San Pedro River-Mineral Creek 20 miles AZ15050100-008	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. Turbidity standard exceeded in older data (see 303(d) delist comment in the far right column), 2. Missing core parameters. 3. Need mercury samples analyzed with a laboratory reporting limit below applicable standards.	Turbidity (A&Ww) – since 1992	Delist turbidity and add it to the Planning List. No current monitoring data. Older turbidity data exceeded standards in 2 samples out of 3 collected, but need a minimum of 5 exceedances in 20 samples to support a 303(d) listing of turbidity.
Gila River Mineral Creek-Donnelly Wash 16 miles AZ15050100-007	Part 3 – Not assessed (All designated uses are inconclusive by default: A&Ww, FC, FBC, AgI, AgL)	Add to the Planning List due to: 1. Copper and turbidity (see 303(d) delist comment in the far right column), and 2. Lack of current monitoring data.	Copper (A&Ww) -- 1992 Turbidity (A&Ww) – 1992	Delist copper and turbidity and add to the Planning List. No current monitoring data. Older data was related to a spill (on Mineral Creek) that was subsequently cleaned-up, and therefore, would not meet current 303(d) listing requirements. Also, actions on Mineral Creek should mitigate further copper being transported into this section of the Gila River.
Gila River Ashurst-Hayden-Florence WWTP 13 miles AZ15050100-003B	A&We Inconclusive PBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. Copper standard exceeded in 1 out of 2 samples collected, 2. Missing core parameters, and 3. Insufficient sampling events.		
Gila River Salt River-Agua Fria River 4 miles AZ15070101-015	A&Wedw Inconclusive PBC Inconclusive FC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. A fish consumption advisory for DDT, toxaphene, dieldrin, and chlordane is in effect (see comment in far right column) and 2. Lack of current water chemistry monitoring data.	Narrative toxicity standard -- Fish consumption advisory due to DDT, toxaphene, dieldrin and chlordane (FC) -- since1988. Ongoing TMDL investigations.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. The existing fish consumption advisory for these pesticides indicates a narrative standard violation but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute (Appendix B--49-232.F). Until the procedures are adopted, ADEQ must place the water on the Planning List (Appendix B – R18-11-605.C.3).
Gila River Agua Fria River-Waterman Wash 12 miles AZ15070101-014	A&Wedw Inconclusive FC Inconclusive PBC Inconclusive AgI	Add to the Planning List due to: 1. A fish consumption advisory for DDT, toxaphene, dieldrin, and chlordane is in effect (see comment in far right column) and 2. Missing core parameters	Narrative toxicity standard -- Fish consumption advisory due to DDT, toxaphene, dieldrin and chlordane (FC) -- since1988. Ongoing TMDL investigations.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. The existing fish consumption advisory for these pesticides indicates a narrative standard violation but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute (Appendix B--49-232.F). Until the procedures are adopted, ADEQ must place the water on the Planning List (Appendix B – R18-11-605.C.3).

TABLE 21. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – MIDDLE GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
	Inconclusive AgL Inconclusive Part 3 -- Inconclusive			
Gila River Waterman Wash-Hassayampa R. 14 miles AZ15070101-010	A&Wedw Inconclusive PBC Inconclusive FC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. A fish consumption advisory for DDT, toxaphene, dieldrin, and chlordane is in effect (see comment in far right column) and 2. Lack of current water chemistry monitoring data.	Narrative toxicity standard -- Fish consumption advisory due to DDT, toxaphene, dieldrin and chlordane (FC) -- since1988. Ongoing TMDL investigations.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. The existing fish consumption advisory for these pesticides indicates a narrative standard violation but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute (Appendix B--49-232.F). Until the procedures are adopted, ADEQ must place the water on the Planning List (Appendix B – R18-11-605.C.3).
Gila River Hassayampa River-Centennial Wash 7 miles AZ15070101-009	A&Wedw Inconclusive PBC Inconclusive FC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. A fish consumption advisory for DDT, toxaphene, dieldrin, and chlordane is in effect (see comment in far right column) and 2. Lack of current water chemistry monitoring data.	Narrative toxicity standard -- Fish consumption advisory due to DDT, toxaphene, dieldrin and chlordane (FC) -- since1988. Ongoing TMDL investigations.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. The existing fish consumption advisory for these pesticides indicates a narrative standard violation but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute (Appendix B--49-232.F). Until the procedures are adopted, ADEQ must place the water on the Planning List (Appendix B – R18-11-605.C.3).
Gila River Centennial Wash-Gillespie Dam 5 miles AZ15070101-008	A&Ww Attaining FC Inconclusive FBC Attaining AgI Impaired AgL Attaining Part 5 – Impaired	Impaired by boron	Boron (AgI) -- since1992 Fecal Coliform (A&Wedw) -- since1994 Selenium (A&Wedw) – since 1998 Turbidity (A&Wedw) – since 1994	Keep boron on the 303(d) List. Boron standard exceeded in 16 samples out of 21 samples collected.
		Add to the Planning List due to: 1. Beryllium standard exceeded in 4 out of 11 samples, 2. Fish consumption advisory for DDT, toxaphene, dieldrin, and chlordane (see comments in the far right column),		Delist fecal coliform, selenium, and turbidity. Fecal coliform exceeded standards in 3 out of 25 samples and selenium exceeded standards in 3 of 22 samples collected, but neither standard was exceeded in at least 2 samples in a 3-year period required to support 303(d) listing. Turbidity exceeded standards in 3 samples out of 25, that met the minimum of 5 exceedances in 25 samples needed to support a 303(d) turbidity listing.
			Narrative toxicity standard -- Fish consumption advisory due to DDT, toxaphene, dieldrin and chlordane (FC) -- since1988. Ongoing TMDL investigations.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. The existing fish consumption advisory for these pesticides indicates a narrative standard violation but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute (Appendix B--49-232.F). Until the procedures are adopted, ADEQ must place the water on the Planning List (Appendix B – R18-11-605.C.3). Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. Applicable narrative toxicity implementation procedures have not yet been documented and adopted using a public review and comment process as required in new Arizona TMDL statute (see Appendix A – 49-232.F).
Gila River Gillespie Dam-Rainbow Wash 5 miles AZ15070101-007	A&Ww Inconclusive FBC Inconclusive FC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. A fish consumption advisory for DDT, toxaphene, dieldrin, and chlordane is in effect (see comment in far right column) and 2. Lack of current water chemistry	Narrative toxicity standard -- Fish consumption advisory due to DDT, toxaphene, dieldrin and chlordane (FC) -- since1988. Ongoing TMDL investigations.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. The existing fish consumption advisory for these pesticides indicates a narrative standard violation but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute (Appendix B--49-232.F). Until the procedures are adopted, ADEQ must place the

TABLE 21. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – MIDDLE GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
		monitoring data.		water on the Planning List (Appendix B – R18-11-605.C.3).
Gila River Rainbow Wash-Sand Tank 17 miles AZ15070101-005	A&Ww Inconclusive FBC Inconclusive FC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. A fish consumption advisory for DDT, toxaphene, dieldrin, and chlordane is in effect (see comment in far right column) and 2. Lack of current water chemistry monitoring data.	Narrative toxicity standard -- Fish consumption advisory due to DDT, toxaphene, dieldrin and chlordane (FC) -- since1988. Ongoing TMDL investigations.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. The existing fish consumption advisory for these pesticides indicates a narrative standard violation but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute (Appendix B--49-232.F). Until the procedures are adopted, ADEQ must place the water on the Planning List (Appendix B – R18-11-605.C.3).
Gila River Sand Tank-Painted Rocks Reservoir 19 miles AZ15070101-001	A&Ww Inconclusive FBC Inconclusive FC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. A fish consumption advisory for DDT, toxaphene, dieldrin, and chlordane is in effect (see comment in far right column) and 2. Lack of current water chemistry monitoring data.	Narrative toxicity standard -- Fish consumption advisory due to DDT, toxaphene, dieldrin and chlordane (FC) -- since1988. Ongoing TMDL investigations.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. The existing fish consumption advisory for these pesticides indicates a narrative standard violation but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute (Appendix B--49-232.F). Until the procedures are adopted, ADEQ must place the water on the Planning List (Appendix B – R18-11-605.C.3).
Grand Canal 5 miles AZ15070102-250	AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
Hassayampa River headwaters-Copper Creek 11 miles AZ15070103-007A	A&Ww Impaired FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 5 – Impaired	Impaired by zinc	Cadmium (AgI, AgL, A&Ww) -- since 1992 Copper (A&Ww) -- since 1992 Zinc (A&Ww) -- since 1992 Draft zinc TMDL has completed public review and is to be submitted to EPA in 2002.	Keep zinc on the 303(d) List. Dissolved zinc standard was exceeded in 3 samples out of 3 collected, that meets the 303(d) listing requirement of at least 2 exceedances in 3 years for this toxic parameter.
		Add to the Planning List due to copper standards being exceeded (see 303(d) delisting comment in far right column).		Delist cadmium and copper and add copper to the Planning List. Dissolved cadmium did not exceed standards in 3 samples and dissolved copper exceeded standard in only 1 of 3 samples. (Minimum to support 303(d) listing for these parameters is 2 exceedances in 3 years).
Hassayampa River Copper Creek-Blind Indian Creek 20 miles AZ15070103-007B	A&Ww Inconclusive FC Attaining FBC Attaining AgI Inconclusive AgL Inconclusive Part 2 – Attaining Some Uses	Add to the Planning List due to: 1. Beryllium standard exceeded in 1 out of 1 sample, and 2. Fecal coliform standard exceeded in 1 out of 8 samples.	Cadmium (AgI, AgL, A&Ww) -- 1992 Copper (A&Ww) -- 1992 Zinc (A&Ww) -- 1992 Ongoing TMDL investigation. Original reach is being split at Copper Creek based on monitoring data and extent of impairment, and this lower section is not impaired.	Delist cadmium, copper, and zinc from the 303(d) List. Cadmium and zinc did not exceed standards in 12 samples and copper exceeded the standards only once in 12 samples (attaining uses). (See other portion of this reach)
Hassayampa River Cottonwood Creek-Martinez Wash 32 miles AZ15070103-004	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Attaining AgL Inconclusive	Add to the Planning List due to 1. Arsenic standard exceeded in 1 out of 7 samples, 2. Beryllium standard exceeded in 2 out of 2 samples, 3. Copper standard exceeded in 1 out of 7 samples, 4. *E. coli* standard exceeded in 1 of 6 samples, 5. Lead standard exceeded in 1 of 7 samples, and	Turbidity - 1992	Delist turbidity and add to Planning List. Turbidity samples exceeded standards in only 2 of 7 samples collected. A minimum of 5 exceedances in 20 samples is needed to support a 303(d) listing of this parameter.

TABLE 21. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – MIDDLE GILA WATERSHED

2002 ASSESSMENT AND PLANNING LIST			303(d) LIST	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
	Part 2 – Attaining Some Uses	6. Turbidity standard exceeded in 2 of 7 samples.		
Hassayampa River Buckeye Canal-Gila River 2 miles AZ15070103-001B	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 –Inconclusive	Add to the Planning List due to: 1. A fish consumption advisory for DDT, toxaphene, dieldrin, and chlordane(see 303(d) delist comment in far right column) 2. DDE exceeded standards (see 303(d) comment in far right column). 3. Missing core parameters.	Narrative toxicity standard -- Fish consumption advisory due to DDT, toxaphene, dieldrin and chlordane (FC) -- since1988. Ongoing TMDL investigations.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. The existing fish consumption advisory for these pesticides indicates a narrative standard violation but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute (Appendix B--49-232.F). Until the procedures are adopted, ADEQ must place the water on the Planning List (Appendix B – R18-11-605.C.3). DDE exceeded standards in 10 out of 10 water samples collected by USGS, but did not meet the minimum of 20 samples required for this parameter to remain on the 303(d) List. (Note, the DDE values did not exceed the acute Aquatic and Wildlife standards.)
Lynx Creek headwaters-Agua Fria River 21 miles AZ15070102-033	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. Cadmium and copper exceeding standards in 1 out of 1 sample, 2. Lack of sampling events, and 3. Missing core parameters		
Mineral Creek headwaters-Devils Canyon 9 miles AZ15050100-012A	Part 3 – Not assessed (All designated uses are inconclusive by default: A&Ww, FC, FBC, AgL.)	Add to the Planning List due to lack of monitoring data in this new segment (see 303(d) delist comment in the far right column).	Beryllium (FC) -- since 1992 Copper (A&Ww AgL) -- since 1992 pH (A&Ww, FBC, AgI, AgL) -- since 1992 Zinc (A&Ww) -- since 1992 Original reach is split for hydraulic reasons and to better define the extent of contamination. Sampling is ongoing in this upper watershed.	Delist this section of the original reach and place on the Planning List. After segmenting this reach due to hydraulic reasons, there is no monitoring data to assess this ephemeral reach as all data available for this assessment was collected in the lower reach (see below).
Mineral Creek Devils Canyon-Gila River 10 miles AZ15050100-012B	A&Ww Impaired FC Impaired FBC Inconclusive AgL Impaired Part 5 – Impaired	Impaired by beryllium, copper, zinc, and pH Add to the Planning List due to missing core parameters	Beryllium (FC) -- since 1992 Copper (A&Ww, AgL) – since 1992 pH (A&Ww, FBC, AgI, AgL) -- since 1992 Zinc (A&Ww) -- since 1992 A compliance program consent decree has ensured substantial technology-based actions to eliminate exceedances. Preliminary TMDL investigation and historic data collection are underway.	Keep beryllium, copper, pH, and zinc on the 303(d) List. Beryllium exceeded standards in 67 out of 169 samples, copper exceeded in 65 out of 170 samples, and zinc exceeded standards in 36 out of 170 samples. Low pH values were limited to the tunnel inlet site, where 10 out of 33 did not meet standards.
Queen Creek headwaters-Superior Mine WWTP 9 miles AZ15050100-014A	A&Ww Impaired FC Attaining PBC Inconclusive DWS Inconclusive	Impaired by copper. Add to the Planning List due to missing core parameters.		Add copper to the 303(d) List. Dissolved copper exceeded standards in 2 samples out of 2 collected, and met the 303(d) listing requirement of at least 2 exceedances in 3 years for this toxic parameter.

TABLE 21. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – MIDDLE GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
	AgL Attaining Part 5 – Impaired			
Queen Creek Superior Mine WWTP-Potts Canyon 6 miles AZ15050100-014B	A&Wedw Inconclusive PBC Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
Salt River 23rd Ave WWTP-Gila River 14 miles AZ15060106B-001D	A&Wedw Inconclusive FC Inconclusive PBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. A fish consumption advisory for DDT, toxaphene, dieldrin, and chlordane is in effect (see comment in far right column) and 2. Lack of current water chemistry monitoring data.	Narrative toxicity standard -- Fish consumption advisory due to DDT, toxaphene, dieldrin and chlordane (FC) -- since1988. Ongoing TMDL investigations.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. The existing fish consumption advisory for these pesticides indicates a narrative standard violation but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute (Appendix B--49-232.F). Until the procedures are adopted, ADEQ must place the water on the Planning List (Appendix B – R18-11-605.C.3).
			pH (A&Wedw, PBC, AgI, AgL) – since 1994	Delist pH. No exceedances in 24 samples (attaining uses).
South Canal 10 miles AZ15060106B-180	DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
Tempe Canal 1 mile AZ15050100-115	DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
Turkey Creek headwaters-Poland Creek 30 miles AZ15070102-036	A&Ww Impaired FBC Inconclusive FC Inconclusive AgI Inconclusive AgL Inconclusive Part 5 -- Impaired	Impaired by cadmium, copper and zinc.	Arsenic (FBC) -- since 1992 Cadmium (AgI, AgL, FBC, FC) -- since 1992 Copper (AgI, AgL) -- since 1992 Cyanide (A&Ww, AgL) -- since 1992 Lead (AgL) -- since 1992 Zinc (FBC, FC, AgI, AgL) -- since1992 Ongoing TMDL investigation. Coordinating with the US Forest Service. ADEQ expects to submit a TMDL and formal report to EPA in 2002 to support delisting some metals.	Delist arsenic, cyanide, and lead and place arsenic and lead on the Planning List. No cyanide exceedances in 15 samples. Arsenic exceeded standards in only 3 out of 5 samples and lead exceeded standards in only 1 of 5 samples (303(d) listing requires a minimum of 5 exceedances and 20 samples for the arsenic and lead standards exceeded).
		Add to the Planning List due to: 1. Arsenic standard exceeded in 3 out of 5 samples, 2. Lead standard exceeded in 1 out of 5 samples (see 303(d) delist comment in the far right column) and 3. Missing core parameters.		Keep cadmium, copper, and zinc on the 303(d) List. Among 5 samples collected, dissolved cadmium exceeded standards in 2 samples, dissolved copper standard was exceeded in 3 samples, and dissolved zinc was exceeded in 3 samples and met the 303(d) listing requirement for these toxic parameters of at least 2 exceedances in 3 years.
Western Canal 15 miles AZ15060106B-262	AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters.		
Western Canal	DWS Inconclusive	Add to the Planning List due to		

TABLE 21. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – MIDDLE GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
10 miles AZ15050100-990	AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	missing core parameters.		
MIDDLE GILA WATERSHED -- LAKE ASSESSMENT				
Alvord Park Lake 27 acres AZL15060106B-0050	A&Ww Inconclusive FC Attaining PBC Inconclusive Part 2 -- Attaining some Uses Trophic status not calculated	Add to the Planning List due to: 1. Beryllium exceeded standard in 1 sample out of 1 collected and 2. Missing core parameters (bacteria samples).		
Chaparral Lake 13 acres AZL15060106B-0300	A&Ww Inconclusive FC Attaining PBC Inconclusive AgI Inconclusive Part 2 -- Attaining Some Uses Trophic status not calculated	Add to the Planning List due to: 1. pH not meeting standards in 3 out of 12 samples and 2. Missing core parameters (bacteria samples).		
Cortez Park Lake 2 acres AZL15060106B-0410	A&Ww Inconclusive FC Attaining PBC Inconclusive AgI Inconclusive Part 2 -- Attaining Some Uses Trophic status not calculated	Add to the Planning List due to: 1. pH not meeting standards in 6 of 12 samples (a minimum of 5 exceedances in 20 samples is needed to support a 303(d) listing), 2. Fish kill in 1999 related to an algal bloom is evidence of a narrative standards violation, and 3. Missing core parameters.		
Fain Lake 10 acres AZL15070101-0005	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive Trophic status not calculated	Add to the Planning List due to: 1. Missing core parameters and 2. Need mercury samples analyzed with a laboratory reporting limit below the standards.		
Lake Pleasant 2042 acres AZL15070102-1100	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive	Add to the Planning List due to: 1. Fish kill in 1997 due to resuspended organic sediments in flood waters may be evidence of a narrative standards violation, and 2. Missing core parameters.		

TABLE 21. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – MIDDLE GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
	AgL Inconclusive Part 3 -- Inconclusive Oligotrophic			
Lynx Lake 50 acres AZL15070102-0860	A&Wc Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Attaining Part 2 -- Attaining Some Uses Trophic status not calculated	Add to the Planning List due to missing core parameters.		
Painted Rock Reservoir 100 acres AZL15070101-1020	A&Ww Inconclusive FBC Inconclusive FC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive Trophic status not calculated	Add to the Planning List due to: 1. A fish consumption advisory for DDT, toxaphene, dieldrin, and chlordane is in effect (see comment in far right column) and 2. Lack of current water chemistry monitoring data.	Narrative toxicity standard -- Fish consumption advisory due to DDT, toxaphene, dieldrin and chlordane (FC) -- since1988. Ongoing TMDL investigations.	Delist DDT, toxaphene, dieldrin, chlordane and add to the Planning List. The existing fish consumption advisory for these pesticides indicates a narrative standard violation but applicable narrative implementation procedures have not been adopted through a public review process as required in Arizona's TMDL statute (Appendix B--49-232.F). Until the procedures are adopted, ADEQ must place the water on the Planning List (Appendix B – R18-11-605.C.3).
Papago Park Ponds 6 acres AZL15060106B-1030	A&Ww Attaining FC Attaining PBC Inconclusive Part 2 -- Attaining Some Uses Trophic status not calculated	Add to the Planning list due to Missing core parameters.		
Tempe Town Lake 220 acres AZL15060106B-1588	A&We Not Attaining PBC Not Attaining Part 4B -- Not attaining Trophic status not calculated	Add to the Planning List due to pH standards being exceeded in 169 out of 623 samples before beginning technology-based treatment of the lake to control algal growth. Only two months of data since treatment was initiated, but pH standards are being met. Continue ongoing monitoring by the city.		

*See Volume II Table 16, starting on page MG - 7, for more monitoring data and further details concerning the basis of each assessment.

TABLE 22. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – SALT RIVER WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
SALT WATERSHED -- STREAM ASSESSMENTS				
Beaver Creek headwaters-Black River 13 miles AZ15060101-008	Part 3 -- Not assessed. (All uses are inconclusive by default: A&Wc, FBC, FC, AgI, AgL).	Add to the Planning List due to: 1. Old turbidity exceedances 2. Lack of current data (see 303(d) delist comment in the far right column). 3. Missing core parameters.	Phosphorus (total) (A&Wc)-- since 1994 Turbidity (A&Wc) -- since 1994 Ongoing monitoring.	Delist phosphorus. No current monitoring data. Original data did not exceed single sample maximum standards and had insufficient phosphorus samples to support application of annual mean standard. (Surface water standards define an annual mean as the mean of at least 3 monthly means during a 12 month period. It takes more than one sample to define a monthly mean.)
				Delist turbidity. No current monitoring data. Original data exceeded the turbidity standard in 2 out of 4 samples, which does not meet the minimum of 5 exceedances in 20 samples to support a 303(d) listing for turbidity.
Bloody Tanks Wash Schultz Ranch-Miami Wash 7 miles AZ15060103-034B	Part 3 – Not assessed. (All designated uses are inconclusive by default: A&We, PBC, and AgL)	Add to the Planning List due to 1. Copper exceedances (see 303(d) delist comment in the far right column) and 2. Lack of current monitoring data.	Copper (A&We) -- since 1988	Delist copper. No current data and cannot locate original data used to support listing (this wash was listed along with Pinal Creek and Miami Wash in 1988.). Credible data was collected by EPA in 1993 at 4 sites showing copper exceedances, but during only <u>one</u> sampling event. Need a minimum of 2 exceedances in a three-year period, during at least 2 sampling events to merit a 303(d) listing.
Canyon Creek headwaters-Oak Creek 9 miles AZ15060103-014	Part 3-- Not assessed. (All designated uses are inconclusive by default: A&Wc, FBC, FC, DWS, AgI, AgL).	Add to the Planning List to provide current monitoring data.	Turbidity (A&Wc) -- since 1994	Delist turbidity. No current data. Older data exceeded the turbidity standard in only 3 of 23 samples. Need a minimum of 5 exceedances if 23 samples to support a 303(d) listing, and based on current assessment criteria reach would be attaining its designated uses.
Cherry Creek headwaters-Salt River 61 miles AZ15060103-015	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3-- Inconclusive	Add to the Planning List due to missing core parameters and lack of sampling events.		
Christopher Creek headwaters-Tonto Creek 8 miles AZ15060105-353	A&Wc Impaired FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 5 -- Impaired	Impaired by turbidity.		Add turbidity to the 303(d) List. Turbidity exceeded standards in 9 samples out of 32 collected. The minimum to support a 303(d) listing for turbidity is 6 exceedances when 32 samples are collected.
		Add to the Planning List due to: 1. *Escherichia coli* exceedance in 1996 and 2000, and 2. Missing core parameters	Nitrogen (Total) (A&Wc) -- since 1998. Additional sampling is ongoing. A TMDL report supporting the delist of nitrogen is to be submitted to EPA in 2002.	Delist nitrogen. Neither the single sample maximum nor the annual mean standard was exceeded. (Attainment also confirmed by reviewing data collected in the summer of 2002, data that were not included in this assessment.)
Fish Creek	A&Ww Inconclusive	Add to the Planning List due to		

TABLE 22. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – SALT RIVER WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
headwaters-Black River 14 miles AZ15060101-032	FBC Inconclusive FC Inconclusive Part 3 -- Inconclusive	dissolved copper exceedance in 1 sample out of 1 collected.		
Haunted Canyon headwaters-Pinto Creek 7 miles AZ15060103-879	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3-- Inconclusive	Add to the Planning List due to: 1. Beryllium exceedance in 1 sample of 1 collected, 2. Missing core parameters, and 3. Insufficient sampling events.		
Pinal Creek Radium-Jesse Lane 9 miles AZ15060103-280C	Part 3 – Not assessed (All designated uses are inconclusive by default: A&Ww, FC, FBC, AgL.)	Add to the Planning List. Need monitoring data in this segment, however, collecting samples may be difficult because the segment is ephemeral.	Copper (A&We) -- since 1988 Manganese (FBC) -- since 1988 pH (A&We, AgL) -- since 1988 Zinc (A&We) -- since1988 See other segment — AZ15060103-280D	Delist all pollutants. New segmentation of the stream due to hydrological change at Jesse Lane. All old and new monitoring data occurred in the lower segment (AZ15060103-280D). (See assessment and new treatment described in the segment below which has modified where perennial flow begins.)
Pinal Creek Jesse Lane-Salt River 6 miles AZ15060103-280D	A&Ww Attaining FC Attaining FBC Attaining AgL Attaining Part 1 – Attaining		Manganese (FBC) -- since 1988 pH -- since 1988 Ongoing investigation and corrective actions being taken through the Arizona WQARF (Superfund) Program.	Delist all pollutants. All surface and subsurface flow is intercepted at Jesse Lane and water is sent to a treatment plant. Treated effluent discharge is monitored at several sites. No further exceedances have occurred after a few months of treatment. Ongoing monitoring at several sites. All designated uses are attaining!
Pinto Creek headwaters-Ripper Spring 20 miles AZ15060103-018A	A&Ww Not attaining FC Attaining FBC Inconclusive AgI Attaining AgL Attaining Part 4A -- Not attaining	Add to the Planning List to determine copper TMDL implementation strategies effectiveness and to collect missing core parameters.	Copper (A&Ww) – since 1988 Copper Phase I TMDL approved by EPA in 2001. ADEQ is conducting additional monitoring for a Phase II copper TMDL.	Delist copper and add to Planning List. A copper TMDL was completed and approved by EPA in 2001. In the TMDL strategy implementation and monitoring phase.
Pinto Creek Ripper Spring-Roosevelt Lake 19 miles AZ15060103-018B	A&Ww Attaining FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses		Copper A&Ww – since 1988	Split original reach at Ripper Spring. This lower segment is attaining its designated uses and should be removed from the 303(d) List (see upper segment).
Salt River Pinal Creek-Roosevelt Lake 8 miles AZ15060103-022	A&Ww Attaining FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses		Turbidity (A&Ww) – since 1990	Delist turbidity. Turbidity exceeded standard in only 1 of 13 samples; therefore, assessed as attaining uses for this parameter.
Salt River Saguaro Lake-Verde River 10 miles AZ15060106A-003	A&Ww Attaining FC Attaining FBC Attaining DWS Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses			

TABLE 22. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – SALT RIVER WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Spring Creek headwaters-Tonto Creek 20 miles AZ15060105-010	A&Wc Attaining FC Attaining FBC Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameters.		
Tonto Creek headwaters-Haigler Creek 17 miles AZ15060105-013	A&Wc Impaired FC Inconclusive FBC Attaining AgI Attaining AgL Attaining Part 5 -- Impaired	Impaired by turbidity	Escherichia coli (FBC) – since 1998 Nitrogen (total) (A&Wc) – since 1996 Phosphorus (total) (A&Wc) – since 1996 Additional sampling is ongoing. Target completion date for draft nutrient and bacterial TMDLs is September 2002.	Add turbidity to the 303(d) List. Turbidity exceeded standards in 23 out of 43 samples collected, that meets the minimum of 8 exceedances if 43 samples to support a 303(d) listing.
		Add to the Planning List due to: 1. Beryllium standard exceeded in 1 sample, 2. Escherichia coli exceedances.		Delist nitrogen and phosphorus. Single sample maximum standards were not exceeded in 44 samples. Delist Escherichia coli. Exceeded standards in only 2 of 41 samples and exceedances were spread over 4 years (Need a minimum of 2 exceedances within a 3-year period to support a 303(d) listing).
Tonto Creek Rye Creek-Gun Creek 5 miles AZ15060105-008	A&Wc Impaired FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 5 -- Impaired	Impaired by turbidity	Turbidity (A&Wc) – since 1990.	Keep turbidity on the 303(d) List. Turbidity standards were exceeded in 7 samples out of 20 collected. This meets the minimum of 5 exceedances in 20 samples for this parameter.
West Fork Black River headwaters-Black River 15 miles AZ15060101-048	Part 3 -- Not assessed (All uses are inconclusive by default: A&Wc, FBC, FC, DWS, AgI, AgL.)	Add to Planning List due to: 1. Turbidity (see 303(d) delist comment in the far right column), and 2. Lack of current monitoring data.	Turbidity (A&Wc) – since 1990	Delist turbidity and add to Planning List. No current data and older turbidity data exceeded standards in 2 samples out of 4 collected. For this parameter, a minimum of 5 exceedances in 20 samples is needed to support a 303(d) listing.
SALT WATERSHED -- LAKE ASSESSMENTS				
Apache Lake 2191 acres AZL15060106A-0070	A&Wc Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3-- Inconclusive Oligotrophic	Add to the Planning List due to missing core parameters.		
Big Lake 440 acres AZL15060101-0160	A&Wc Inconclusive FC Inconclusive	Add to the Planning List due to missing core parameters.		

TABLE 22. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – SALT RIVER WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			303(d) LIST	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
	FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3-- Inconclusive Trophic status not calculated			
Crescent Lake 157 acres AZL15060101-0420	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3-- Inconclusive Trophic status not calculated	Add to the planning List due to: 1. pH not meeting standards in 6 of 8 samples collected (need a minimum of 20 samples with 5 exceedances to support a 303(d) listing) and 2. Missing core parameters.		
Lake Sierra Blanca 31 acres AZL15060101-1390	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3-- Inconclusive Trophic status not calculated	Add to the Planning List due to a fish kill in 1998 related to weed growth and high pH which may be evidence of narrative standards violations.		
Roosevelt Lake 18,345 acres AZL15060103-1240	A&Ww Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3-- Inconclusive Oligotrophic - Dystrophic	Add to the Planning List due to missing core parameters.		
Saguaro Lake	A&Wc Attaining	Add to the Planning List due to missing		

TABLE 22. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – SALT RIVER WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			303(d) LIST	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
1022 acres AZL15060106A-1290	FC Attaining FBC Inconclusive DWS Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses Oligotrophic	core parameters.		

*See Volume II Table 19, starting on page SR - 7, for more monitoring data and further details concerning the basis of each assessment.

TABLE 23. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – SAN PEDRO-WILLCOX PLAYA-RIO YAQUI WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			303(d) LIST	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
SAN PEDRO-WILLCOX PLAYA-RIO YAQUI WATERSHED -- STREAM ASSESSMENTS				
Aravaipa Canyon Creek Stowe Gulch-Wilderness boundary 16 miles AZ15050203-004B (Unique Waters)	A&Ww Attaining FC Attaining FBC Attaining DWS Attaining AgL Attaining Part 1 -- Attaining All Uses			
Aravaipa Canyon Creek Wilderness boundary-San Pedro R. 13 miles AZ15050203-004C	A&Ww Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters and lack of sampling events		
Bass Canyon Creek headwaters-Hot Springs Canyon 12 miles AZ15050203-899	A&Ww Attaining FC Attaining FBC Attaining Part 1 -- Attaining All Uses			
Buehman Canyon headwaters-end of Unique Waters 10 miles AZ15050203-010A (Unique Waters)	A&Ww Attaining FC Inconclusive FBC Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to beryllium standard being exceeded in 8 samples out of 8 collected. Note: beryllium concentrations will meet proposed beryllium standard submitted to EPA for approval in 2002.		
Copper Creek headwaters-Prospect Canyon 7 miles AZ15050203-022A	A&Ww Attaining FC Attaining FBC Attaining DWS Attaining AgL Attaining Part 1 -- Attaining All Uses			
Double R Canyon Creek headwaters-Bass Canyon Creek 5 miles AZ15050203-902	A&Ww Inconclusive FC Attaining FBC Inconclusive DWS Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to dissolved oxygen not meeting standards in 2 samples out of 3 collected, and missing core parameters.		
Grant Creek headwaters-High Creek 13 miles AZ15050201-033	A&Wc Attaining FC Attaining FBC Inconclusive DWS Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to Planning List due to missing core parameters.		
Hendricks Gulch headwaters-Mule Gulch 0.5 miles	A&We Inconclusive PBC Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to dissolved copper and low pH not meeting standards in 1 out of 3		

TABLE 23. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – SAN PEDRO-WILLCOX PLAYA-RIO YAQUI WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
AZ15080301-335		samples and missing core parameters. To be addressed as part of Mule Gulch TMDL.		
Hot Springs Canyon Creek headwaters-San Pedro River 26 miles AZ15050203-013	A&Ww Attaining FC Attaining FBC Attaining AgL Attaining Part 1 -- Attaining All Uses			
Mule Gulch headwaters-WWTP Bisbee 4 miles AZ15080301-090A	A&Ww Impaired FC Inconclusive PBC Inconclusive AgI Inconclusive AgL Inconclusive Part 5 -- Impaired	Impaired by copper and zinc Add to the Planning List due to pH not meeting standards (see 303(d) delist comment in the far right column).	Copper (A&Ww, AgL) -- since 1990 pH (A&Ww, PBC, AgI, AgL) -- since 1990 Zinc (A&Ww) -- since1990 Sampling has been completed. Modeling is being reviewed. Additional sampling is being considered to support development of site-specific standards.	Keep copper and zinc on the 303(d) List. Dissolved copper exceeded standards in 12 samples out of 16 and dissolved zinc exceeded standards in 7 samples out of 16. Both met the minimum of 2 exceedances in 3 years to support a 303(d) listing for these toxic parameters. Delist pH and put on the Planning List. Standards for pH were not met in 7 of 15 samples. A minimum of 5 exceedances in 20 samples is needed to support a 303(d) listing of this parameters.
Mule Gulch WWTP-Whitewater Draw 8 miles AZ15080301-090B	A&Wedw Impaired PBC Impaired AgL Impaired Part 5 -- Impaired	Impaired by copper, low pH, and zinc	Copper (A&Ww, AgL) -- since 1990 pH (A&Ww, PBC, AgI, AgL) -- since1990 Zinc (A&Ww) -- since 1990 TMDL sampling completed and modeling is being reviewed. Additional sampling is being conducted to support development of a site-specific standard.	Keep copper, pH, and zinc on the 303(d) List. In 20 samples, dissolved copper exceeded standards in 8 samples, dissolved zinc exceeded standards in 7 samples, and pH did not meet standards in 7 samples. The number of exceedances met minimum 303(d) listing requirements.
Ramsey Canyon Creek headwaters-San Pedro River 13 miles AZ15050202-404	A&Wc Attaining FC Attaining FBC Attaining DWS Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses			
Rucker Canyon Creek headwaters-Whitewater Draw 10 miles AZ15080301-288	A&Wc Attaining FC Attaining FBC Attaining DWS Attaining AgL Attaining Part 1 -- Attaining All Uses			
San Pedro River Mexico border-Charleston 28 miles AZ15050202-008	A&Ww Attaining FC Inconclusive FBC Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to beryllium standard exceeded in 1 sample out of 1 collected.	Turbidity (A&Ww) -- since 1990	Delist. Only 2 of 18 samples exceeded the turbidity standard. Turbidity is attaining designated uses with less than 4 exceedances in 18 turbidity samples.
San Pedro River Charleston-Walnut Gulch 9 miles	A&Ww Inconclusive FC Attaining FBC Attaining AgI Attaining	Add to the Planning List due to turbidity standard exceeded in 1 sample out of 4 collected.		

TABLE 23. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – SAN PEDRO-WILLCOX PLAYA-RIO YAQUI WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
AZ15050202-006	AgL Attaining Part 2 -- Attaining Some Uses			
San Pedro River Babocomari Creek-Dragoon Wash 17 miles AZ15050202-003	A&Ww Attaining FC Attaining FBC Inconclusive AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to: 1. Escherichia coli not meeting standards in 1 out of 4 samples collected 2. Need for current fecal coliform and 3. Turbidity exceedances (see 303(d) delist comment in the far right column.)	Fecal coliform (A&Ww, AgL) -- since 1990 Turbidity (A&Ww) -- since 1990	Delist fecal coliform and turbidity and add to the Planning List. No current fecal coliform data and in older data only 1 sample out of 6 collected exceeded standards (need a minimum of 2 exceedances in 3 years to support a 303(d) listing). For turbidity, 3 samples out of 10 exceeded standards, and the minimum is 5 exceedances out of 20 samples to support a 303(d) listing.
San Pedro River Dragoon Wash-Tres Alamos Wash 16 miles AZ15050202-002	A&Ww Impaired FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 5 -- Impaired	Impaired by nitrate	Nitrate (A&Ww) – since 1990	Keep nitrate on the303(d) List. Nitrate standard was exceeded in 5 samples out of 20 samples, which meets minimum 303(d) listing requirements.
		Add to the planning list due to: 1. Fecal coliform and turbidity exceedances (see 303(d) delist comment in far right column) and 2. Missing core parameters.	Fecal coliform(A&Ww, AgI, AgL) – since 1990 Turbidity (A&Ww) – since 1990	Delist fecal coliform and turbidity and place them on Planning List. No current data. Older fecal coliform data exceeded standards in only 1 out of 6 samples (minimum is 2 exceedances in 3 years to support a 303(d) listing). Older turbidity data exceeded standards in 3 out of 10 samples (minimum of 5 exceedances in 20 samples needed to support 303(d) listing).
San Pedro River Hot Springs Creek-Redfield Canyon 13 miles AZ15050203-011	A&Ww Inconclusive FC Attaining FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 2 -- Attaining Some Uses	Add to the Planning List due to: 1. *E. coli* and fecal coliform each standard exceeded1 of 4 samples 2. Turbidity standard exceeded in 1 our of 5 samples.		
San Pedro River Aravaipa Creek-Gila River 15 miles AZ15050203-001	A&Ww Inconclusive FC Attaining FBC Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to *E. coli* standard exceeded in 1 of 4 samples collected and turbidity exceedances (see 303(d) delist comment in far right column).	Turbidity (A&Ww) – since 1990	Delist turbidity and add to the Planning List. No current data and older turbidity data shows only 2 samples out of 5 exceeded standards (need a minimum of 5 out of 20 samples to support a 303(d) listing for this parameter).
Winwood Canyon headwaters-Mule Gulch 1 mile AZ15080301-340	A&We Inconclusive PBC Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. Copper and pH not meeting standards in 1 sample out of 2 collected. 2. Need more sampling events and 3. Missing core parametric coverage. To be addressed as part of the Mule Gulch TMDL study.		
Whitewater Draw Elfrida Highway-Mule Gulch AZ15080301-004 A&Ww, FC, FBC, AgI, AgL	Part 3 -- Not assessed (All uses are inconclusive by default: A&Ww, FBC, FC, AgI, AgL.)	Add to the Planning List due to: 1. Lead exceeded standard slightly in 1 sample out of 1 collected; 2. Need more sampling data and core parameters to assess designated uses.		
Whitewater Draw Mule Gulch-Mexico border 6 miles	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive	Add to the Planning List due to: 1. Beryllium, dissolved oxygen, lead, manganese, turbidity, and zinc exceedances (see 303(d) delist	Arsenic (FC) – since 1990 Beryllium (FC) – since 1990 Copper (A&Ww, AgL) – since 1988 Dissolved oxygen (A&Ww) – since 1990	Delist all pollutants. No exceedances in the current six monitoring events, and insufficient older data to support a 303(d) listing. Add beryllium, dissolved oxygen, lead, manganese, turbidity, and zinc to Planning List (do not add arsenic and copper) for the following

TABLE 23. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS – SAN PEDRO-WILLCOX PLAYA-RIO YAQUI WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
AZ15080301-002	AgL Attaining Part 2 -- Attaining Some Uses	comments in far right column) and 2. Missing core parameters.	Lead (AgL) – since 1994 Manganese (FBC) – since 1990 Turbidity (A&Ww) – since 1990 Zinc (AgI) – since 1990	reasons: 1. No exceedances in the current data (4 samples), but critical conditions may not have been represented by current monitoring of this ephemeral stream reach; 2. Beryllium, lead, manganese, and zinc exceeded standards at 2 sites during 1 sampling event in 1992, while under current listing criteria there needs to be at least 5 exceedances of these standards in 20 samples. 3. No current turbidity and dissolved oxygen monitoring data. Arsenic and copper should be delisted due to listing errors. Arsenic is and has been meeting the arsenic standard adopted in 1996. Copper did not exceed standards at this site.
SAN PEDRO-WILLCOX PLAYA-RIO YAQUI WATERSHED -- LAKE ASSESSMENTS				
Riggs Flat Lake 9 acres AZL15050201-1210	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive Oligotrophic	Add to the Planning List due to turbidity standard exceeded in 1 sample out of 1 collected and missing core parameters.		
Snow Flat Lake 1 acre AZL15050201-1420	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive Oligotrophic	Add to the Planning List due to missing core parameters.		

*See Volume II Table 22, starting on page SP - 7, for more monitoring data and further details concerning the basis of each assessment.

TABLE 24. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – SANTA CRUZ-RIO MAGDALENA-RIO SONOYTA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
SANTA CRUZ-RIO MAGDALENA-RIO SONOYTA WATERSHED -- STREAM ASSESSMENTS				
Alum Gulch headwaters-ephemeral reach 2 miles AZ15050301-581A	A&Ww Impaired FC Inconclusive FBC Inconclusive AgL Inconclusive Part 5 -- Impaired	Impaired by: cadmium, copper, and zinc Add to Planning List due to: 1. pH not meeting standards (see 303(d) delist comments in far right column) and 2. Missing core parameters.	Cadmium (A&Ww, FC, FBC, AgL) -- since 1996 Copper (A&Ww) -- since 1996 Zinc (A&Ww, FC, FBC, AgL) -- since 1996 pH (low) (A&Ww, FBC, AgL) -- since 1996 The TMDL report is being revised to address comments and recommendations received during a public comment period in February 2002 and to incorporate new information from the US Geological Survey. Modeling updates are being considered. ADEQ intends to complete the TMDL in 2002.	Keep cadmium, copper, and zinc on the 303(d) List. In 10 samples, dissolved cadmium exceeded standards in 6 samples, dissolved copper exceeded standards in 9 samples, and zinc exceeded standards in 10 samples. (Minimum is 2 exceedances in 3 years to support a 303(d) listing of these toxic parameters.) Delist pH and place it on the Planning List. pH exceeded standards in 7 samples out of 7 collected. Need a minimum of 20 samples with 5 exceedances to place this parameter on the 303(d) List.
Cienega Creek headwaters-Interstate 10 37 miles AZ15050302-006A (Unique Waters)	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 – Inconclusive	Add to the Planning List due to: 1. Insufficient sampling events, 2. Missing bacteria samples, and 3. Lack of seasonal representation.		
Cienega Creek Interstate 10-Del lago Dam 11 miles AZ15050302-006B	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 – Inconclusive	Add to the Planning List due to: 1. Insufficient sampling events, 2. Missing bacteria samples, and 3. Lack of seasonal representation.		
Endless Mine tributary headwaters-Harshaw Creek 1.5 miles AZ15050301-888	A&We Inconclusive PBC Inconclusive Part 3 – Inconclusive	Add to the Planning List due to low pH in 3 samples out of 3 collected and missing core parameters. (To be addressed as part of the Harshaw TMDL investigation.)		
Harshaw Creek headwaters-ephemeral segment 10 miles AZ15050301-025A	A&Ww Impaired FC Inconclusive FBC Inconclusive AgL Inconclusive Part 5 -- Impaired	Impaired by: zinc Add to the Planning List due to 1. Copper and pH not meeting standards (see 303(d) delist comments in far right column) and 2. Missing core parameters.	Zinc (A&Ww) – since 1988 pH (A&Ww, FBC, AgL) – since 1988 Copper (A&Ww, AgL) – since 1988 The TMDL report is being revised to address comments and recommendations from a public comment period in February 2002 and to incorporate new information from the US Geological Survey. Modeling updates are being considered. ADEQ expects to submit the TMDL to EPA for review in 2002.	Keep zinc on the 303(d) List. Dissolved zinc exceeded standards in 4 samples out of 9 collected. (Minimum to support a 303(d) listing is 2 exceedances in 3 years.) Delist pH and copper and put them on the Planning List. Dissolved copper and pH did not meet standards in 1 sample out of 9 collected. (Need a minimum of 2 exceedances in 3 years for dissolved copper, and 5 exceedances in 20 samples for pH.)
Humbolt Canyon headwaters-Alum Gulch 3 miles AZ15050301-340	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 – Inconclusive	Add to the Planning List due to: 1. Copper, zinc, and low pH exceedances 2. Missing core parameters. 3. Need a minimum of 3 sampling events (only 1).	(Problem will be addressed as part of the Alum Gulch TMDL investigation.)	

TABLE 24. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – SANTA CRUZ-RIO MAGDALENA-RIO SONOYTA WATERSHED

2002 ASSESSMENT AND PLANNING LIST			303(d) LIST	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Nogales & East Nogales Washes Mexico border-Potrero Wash 6 miles AZ15050301-011	A&Ww Impaired PBC Impaired Part 5 -- Impaired	Impaired by chlorine, turbidity, and fecal coliform	Chlorine(A&Ww) – since 1996 *Escherichia coli* (FBC) – since 1988 Fecal coliform (A&Ww, PBC) – since 1988 Turbidity (A&Ww) – since 1994 Problem due to insufficient wastewater infrastructure in Mexico. Chlorine tablets put in the stream to mitigate high bacterial contamination is toxic to aquatic life.	Keep fecal coliform, chlorine and turbidity on the 303(d) List. Fecal coliform exceeded in 3 samples out of 16 collected and chlorine exceeded standards in 26 out of 26 samples (meeting the minimum 303(d) listing requirement of 2 exceedances in 3 years). Turbidity exceeded standards in 5 out of 23 samples. Delist Escherichia coli. This was a listing error. This standard does not currently apply to this stream.
Pena Blanca Canyon Creek Mexico border-Pena Blanca Lake 5 miles AZ15050301-808	A&Ww Inconclusive FBC Inconclusive FC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 – Inconclusive	Add to the Planning List due to missing core parameters and insufficient sampling event.		
Potrero Creek Interstate 19-Santa Cruz River 5 miles AZ15050301-500B	A&Ww Impaired FC Attaining FBC Attaining AgL Impaired Part 5 -- Impaired	Impaired by fecal coliform Add to the Planning List due to: 1. Chlorine standard exceeded but only one sampling event and 2. Missing core parameters.	Part of the Nogales Wash and East Nogales Wash problem with wastewater infrastructure. See comment in Nogales and East Nogales Washes.	Add fecal coliform to the 303(d)List. Fecal coliform exceeded standards in 3 out of 17 samples collected. (Minimum of 3 exceedances in 2 years to support 303(d) listing of this parameter.)
Sabino Canyon Creek headwaters-Tanque Verde 20 miles AZ15050302-014	A&Wc Inconclusive FC Inconclusive FBC inconclusive DWS Inconclusive AgL Inconclusive Part 3 – Inconclusive	Add to the Planning List due to: 1. Dissolved oxygen not meeting standards in 1 sample out of 1 sample collected. 2. Need more sampling events and 3. Missing core parameters.		
Santa Cruz River Mexico border-Nogales WWTP 17 miles AZ15050301-010	A&Ww Impaired FC Attaining FBC Impaired DWS Impaired AgI Impaired AgL Impaired Part 5 -- Impaired	Impaired by *Escherichia coli* and fecal coliform Add to Planning List due to: 1. Turbidity standard exceeded (see 303(d) delist comment in the far right column), and 2. Beryllium standard exceeded in 1 sample out of 1 collected.	Turbidity (A&Ww) – since 1990	Add Escherichia coli and fecal coliform to the 303(d) List. Both bacteria exceeded standards in 2 samples out of 7 collected, and both exceedances occurred within two years. Delist turbidity and add to the Planning List. Turbidity exceeded standards in 2 samples out of 9 collected. Need a minimum of 5 exceedances and 20 samples to keep on the 303(d) List.
Santa Cruz River Nogales WWTP-Josephine Canyon 9 miles AZ15050301-009	A&Wedw Impaired PBC Impaired AgL Impaired Part 5 -- Impaired	Impaired by fecal coliform Add to the Planning List due to: 1. Fish anomalies documented by the US Fish and Wildlife Service in 1997 may indicate narrative standards violations, and 2. Missing core parameters.	Cyanide (A&Wedw) – since 1992 Turbidity (A&Wedw) – since 1992	Add fecal coliform to the 303(d) list. Fecal coliform standards were exceeded in 7 samples out of 37 in 5 years (minimum for 303(d) listing is 2 exceedances in 3 years). Delist cyanide and turbidity from the 303(d) List. No current samples. Latest cyanide data (collected in 1993 after the 1992 listing by ADEQ) showed that cyanide did not exceed standards in 10 samples. In current turbidity data, only 1 sample in 30 collected exceeded the standard (attaining use).

TABLE 24. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – SANTA CRUZ-RIO MAGDALENA-RIO SONOYTA WATERSHED

2002 ASSESSMENT AND PLANNING LIST			303(d) LIST	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Santa Cruz River Josephine Canyon-Tubac Bridge 5 miles AZ15050301-008A	A&Wedw Impaired PBC Impaired AgL Impaired Part 5 -- Impaired	Impaired by fecal coliform and turbidity Add to the Planning List due to: 1. Fish anomalies documented by the US Fish and Wildlife Service in 1997 may indicate narrative standards violations, and 2. Missing core parameters.		Add fecal coliform and turbidity to the 303(d) List. Fecal coliform exceeded standards in 9 samples out of 37 collected. Turbidity exceeded standards in 6 out of 31 samples.
Santa Cruz River Tubac Bridge-Sopori Wash 9 miles AZ15050301-008B	A&Wedw Impaired PBC Impaired AgL Impaired Part 5 -- Impaired	Impaired by fecal coliform Add to the Planning List due to missing core parameters.		Add fecal coliform to the 303(d) List. Fecal coliform exceeded standards in 6 out of 37 samples collected. (Only needs to exceed in 2 samples in 3 years.)
Santa Cruz River Canada del Oro-Guild Wash 9 miles AZ15050301-001	A&Wedw Inconclusive PBC Inconclusive Part 3 – Inconclusive	Add to the Planning List due to: 1. Dissolved oxygen not meeting standards in 6 out of 12 samples (minimum of 5 exceedances in 20 samples is needed for a 303(d) listing of this parameter), and 2. Missing core parameters.		
Sonoita Creek headwaters-1 km below Hwy-82 13 miles AZ15050301-013A	A&We Inconclusive PBC Inconclusive AgL Inconclusive Part 3 – Inconclusive	Add to the Planning List due to missing core parameters.		
Sonoita Creek 750 ft below WWTP-Santa Cruz R. 19 miles AZ15050301-013C	A&Ww Inconclusive FC Attaining FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameters.	Dissolved oxygen – since 1990 TMDL investigation completed and report written to support delisting dissolved oxygen.	Delist dissolved oxygen. Investigation revealed that low dissolved oxygen was naturally occurring due to ground water upwelling at spring sources in this reach.
Unnamed trib to Three R Canyon headwaters-Three R Canyon 1 mile AZ15050301-xxx	A&Ww Inconclusive FC Inconclusive FBC Inconclusive Part 3 – Inconclusive	Add to the Planning List due to pH, copper, and zinc exceeded standards in 1 sample out of 1 collected.	(Problem will be addressed as part of the Three R Canyon TMDL.)	
Three R Canyon headwaters-ephemeral segment 5 miles AZ15050301-558A	A&Ww Impaired FC Inconclusive FBC Inconclusive Part 5 -- Impaired	Impaired by cadmium, copper, and zinc. Add to the planning list due to: 1. Beryllium and pH not meeting standards (see 303(d) delist comments in far right column) and 2. Missing core parameters.	Zinc (A&Ww) – since 1994 Copper (A&Ww) – since 1994 pH (A&Ww, FBC) – since 1994 Beryllium (FC) – since 1994 The TMDL report is being redrafted to address comments and recommendations submitted during a public comment period in February 2002 and to incorporate new information from the US Geological Survey. Modeling updates are being considered. ADEQ expects to complete a second public comment period and submit the TMDL to EPA in 2002.	Cadmium, copper, and zinc should be on the 303(d) List. Out of 10 samples collected, dissolved cadmium standard was exceeded in 6 samples, dissolved copper standard was exceeded in 10 samples, and dissolved zinc standard was exceeded in 9 samples in 3 years. (Minimum is 2 exceedances in 3 years for these toxic parameters.) Delist pH and beryllium and add to the Planning List. The pH exceeded standards in 8 samples of 9 collected and beryllium exceeded in 2 samples out of 2 collected. (Minimum is 5 exceedances in 20 samples to support a 303(d) listing for these standards.)

TABLE 24. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – SANTA CRUZ-RIO MAGDALENA-RIO SONOYTA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
SANTA CRUZ-RIO MAGDALENA-RIO SONOYTA WATERSHED -- LAKE ASSESSMENTS				
Arivaca Lake 118 acres AZL15050304-0080	A&Ww Inconclusive FC Not attaining FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 4A -- Not Attaining Hypereutrophic	Add to the Planning List to: 1. Evaluate effectiveness of mercury TMDL strategies being implemented, 2. Missing core parameters, 3. Dissolved oxygen not meeting standards in 1 samples out of 7 4. pH not meeting standards in 3 samples out of 7, and 5. Fish kill in 1999 related to algal blooms, which may be evidence of a narrative standard violation.	Narrative toxic standard (mercury in fish tissue) (FC) – since 1992 Mercury TMDL completed and approved by EPA in 1999.	Delist mercury and add to the Planning List because of approved TMDL. Currently implementing TMDL strategies.
Kennedy Lake 10 acres AZL15050302-0720	A&Ww Attaining FC Attaining PBC Inconclusive Part 2 -- Attaining Some Uses Eutrophic	Add to the Planning List due to missing core parameters.		
Lakeside Lake 15 acres AZL15050302-0760	A&Ww Inconclusive FC Attaining PBC Inconclusive Part 2 -- Attaining Some Uses Hypereutrophic	Add to the Planning List due to: 1. Dissolved oxygen not meeting standards in 4 of 16 samples, 2. Determine if DO and pH violations are related to critical conditions, 3. Fish kills in 1997, 1995, and 1992 indicate a persistent problem related to low dissolved oxygen, which may indicate narrative nutrient standard violations, and 4. Missing core parameters	TMDL is being developed to investigate potential impacts of a proposed aeration system to mitigate nutrient loadings from reclaimed water being discharged to this water. A draft model report on DO and pH is being reviewed. ADEQ plans to complete the TMDL in 2002. (Note that Tucson installed the aeration system in June 2002.)	
Parker Canyon Lake 129 acres AZL15050301-1040	A&Wc Attaining FC Attaining FBC Inconclusive AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses Oligotrophic	Add to the Planning List due to missing core parameters.		
Patagonia Lake 230 acres AZL15050301-1050	A&Wc Inconclusive FC Attaining FBC Inconclusive DWS Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses Eutrophic	Add to the planning List due to: 1. Dissolved oxygen not meeting standards in 1 of 4 samples and 2. Missing core parameters.		
Pena Blanca Lake 51 acres	A&Wc Inconclusive FC Not attaining	Add to the Planning List to: 1. evaluate the effectiveness of	Narrative toxic standard (mercury in fish tissue) (FC) – since 1996.	Delist mercury and move to Planning List to determine effectiveness of the approved TMDL.

TABLE 24. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – SANTA CRUZ-RIO MAGDALENA-RIO SONOYTA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			303(d) LIST	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
AZL15050301-1070	FBC Inconclusive AgI Attaining AgL Inconclusive Part 4A -- Not Attaining Mesotrophic	implemented mercury TMDL strategies (mercury contamination is noted in fish tissue), 2. pH not meeting standards in 2 of 3 samples collected, and 3. Missing core parameters.	Mercury TMDL approved by EPA in 1999.	
Rose Canyon Lake 7 acres AZL15050302-1260	A&Ww Inconclusive FBC Inconclusive FC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 – Inconclusive Trophic status not calculated	Add to the Planning List due 1. pH and turbidity not meeting standards in 1 out of 1 collected, 2. Missing core parameters, and 3. Insufficient sampling events.		

*See Volume II Table 25, starting on page SC - 7, for more monitoring data and further details concerning the basis of each assessment.

TABLE 25. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – UPPER GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			303(d) LIST	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
UPPER GILA WATERSHED -- STREAM ASSESSMENTS				
Ash Creek headwaters-Gila River 19 miles AZ15040005-040	A&Wc Inconclusive FC Attaining FBC Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to low dissolved oxygen in 1 of 3 samples.		
Blue River New Mexico border-KP Creek 21 miles AZ15040004-026	A&Wc Attaining FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses			
Blue River KP Creek-San Francisco River 29 miles AZ15040004-025	A&Wc Attaining FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses		Turbidity (A&Wc) – since 1994	Delist turbidity. Turbidity exceeded standards in only 2 of 16 samples (attaining uses)
Bonita Creek Park Creek-Gila River 15 miles AZ15040005-030 (Unique Waters)	A&Ww Attaining FC Attaining FBC Attaining DWS Attaining AgL Attaining Part 1 -- Attaining All Uses			
Campbell Blue Creek headwaters-Blue River 20 miles AZ15040004-028	A&Wc Attaining FC Attaining FBC Attaining AgL Attaining Part 1 -- Attaining All Uses			
Cave Creek headwaters-USFS boundary 9 miles AZ15040006-852A (Unique Waters)	A&Wc Attaining FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses			
Cave Creek USFS boundary-New Mexico 9 miles AZ15040006-852B	A&Wc Attaining FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses			
Eagle Creek headwaters-Willow Creek 16 miles	A&Wc Attaining FC Attaining FBC Attaining			

TABLE 25. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – UPPER GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
AZ15040005-028	DWS Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses			
Eagle Creek Willow Creek-Sheep Wash 6 miles AZ15040005-027	A&Wc Inconclusive FC Attaining FBC Attaining DWS Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to turbidity standard exceeded in 1 of 4 samples.		
Eagle Creek Sheep Wash-Gila River 25 miles AZ15040005-025	A&Wc Inconclusive FC Attaining FBC Attaining DWS Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to turbidity exceedances (see 303(d) delist comment in far right column).	Turbidity (A&Wc) – since 1998	Delist turbidity and put on the Planning List. Turbidity standard exceeded in 3 samples out of 10 collected. Minimum for 303(d) listing is 5 exceedances in 20 samples for this parameter.
Frye Creek headwaters-Highline Canal 16 miles AZ15040005-988	A&Wc Attaining FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses			
Gila River New Mexico border-Bitter Creek 16 miles AZ15040002-004	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to turbidity (see 303(d) delist comment in the far right column).	Turbidity (A&Ww) – since 1992	Delist turbidity and add it to the Planning List. Listing based on USGS sampling sites in New Mexico. Need Arizona monitoring data.
Gila River Skully Creek-San Francisco River 15 miles AZ15040002-001	A&Ww Inconclusive FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to turbidity (see 303(d) delist comment in the far right column).	Turbidity (A&Ww) – since 1998	Delist turbidity and add it to the Planning List. Turbidity standard exceeded in 6 of 10 samples. A minimum of 5 exceedances in 20 samples is needed to support 303(d) listing of this parameter.
Gila River San Francisco River-Eagle Creek 3 miles AZ15040005-024	A&Ww Inconclusive FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to turbidity (see 303(d) delist comment in the far right column).	Turbidity (A&Ww) – since 1998	Delist turbidity and add it to the Planning List. Turbidity standard exceeded in 12 of 12 samples. Minimum of 5 exceedances in 20 samples is needed to support 303(d) listing of this parameter.
Gila River Eagle Creek-Bonita Creek 10 miles AZ15040005-023	A&Ww Inconclusive FC Attaining FBC Attaining AgI Attaining AgL Attaining	Add to the Planning List due to turbidity (see 303(d) delist comment in the far right column).	Turbidity (A&Ww) — since 1990	Delist turbidity and add to the Planning List. Turbidity standard exceeded in 9 of 12 samples. Minimum of 5 exceedances in 20 samples is needed to support a 303(d) listing of this parameter.

TABLE 25. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – UPPER GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
	Part 2 -- Attaining Some Uses			
Gila River Bonita Creek-Yuma Wash 6 miles AZ15040005-022	A&Ww Impaired FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 5 -- Impaired	Impaired by turbidity	Turbidity (A&Ww) — since 1990	Keep turbidity on the 303(d) List. Turbidity exceeded standards in 13 samples out of 33.
K P Creek headwaters-Blue River 12 miles AZ15040004-029 (Unique Waters)	A&Wc Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgL Inconclusive Part 3-- Inconclusive	Add to the Planning List due to missing core parameters.		
San Francisco River headwaters-New Mexico 13 miles AZ15040004-023	A&Wc Inconclusive FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to: 1. Turbidity (see 303(d) delist comment in the far right column) 2. Dissolved oxygen standard exceeded in 1 of 8 samples.	Turbidity (A&Ww) — since 1998 Escherichia coli (FBC) — since 1998	Delist turbidity and add to the Planning List. Turbidity standard exceeded in 7 of 8 samples, but a minimum of 20 samples is required to support a 303(d) listing for this parameter. Delist *Escherichia coli*. Not standard exceeded in 10 samples.
San Francisco River New Mexico-Blue River 21 miles AZ15040004-004	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to turbidity standard exceeded in 1 sample out of 4 collected.		
San Francisco River Blue River-Limestone Gulch 19 miles AZ15040004-003	A&Ww Inconclusive FC Attaining FBC Inconclusive AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to: 1. Turbidity (see 303(d) delist comment in the far right column). 2. Beryllium standard exceeded in 1 of 1 sample.	Turbidity (A&Ww) — since 1998	Delist turbidity and move to Planning List. Turbidity standard exceeded in 4 of 11 samples, but a minimum of 5 exceedances in 20 samples is needed to support a 303(d) listing of this parameter.
San Francisco River Limestone Gulch-Gila River 13 miles AZ15040004-001	A&Ww Impaired FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 5 -- Impaired	Impaired by turbidity	Turbidity (A&Ww) — since 1992	Keep turbidity on the 303(d) List. Turbidity standard exceeded in 9 samples out of 33 collected.
South Fork Cave Creek headwaters-Cave Creek 8 miles AZ15040006-849 (Unique Waters)	A&Wc Attaining FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses			
UPPER GILA WATERSHED -- LAKE ASSESSMENTS				

TABLE 25. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – UPPER GILA WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
Waterbody Name Segment Description Size Waterbody ID	**Designated Use Assessments* 5-Part Listing Lake Trophic Status**	**Conclusions Pollutants of Concern**	**STATUS OF THE 1998 303(d) LIST**	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Dankworth Ponds 8 acres AZ15040005-0440	A&Ww Attaining FC Attaining FBC Inconclusive Part 2 -- Attaining Some Uses Mesotrophic	Add to the Planning List due to missing core parameters.	Dissolved oxygen (A&Wc) — since 1998 TMDL investigation completed in 2002 and a report recommending delisting dissolved oxygen is being prepared.	Delist dissolved oxygen. Investigation and numerous samples at the lake revealed that naturally low dissolved oxygen occurs in this lake due to spring source of water as ground water is naturally much lower than surface water standards for dissolved oxygen.
Luna Lake 120 acres AZ15040004-0840	A&Ww Not attaining FC Attaining FBC Not attaining AgL Not attaining Part 4A -- Not Attaining Eutrophic	Add to the Planning List due to: 1. Need for TMDL strategy implementation effectiveness monitoring for pH, DO, and narrative nutrients, 2. Missing bacteria samples, and 3. Fish kills in 1999 and 2002 related to algal blooms which may be evidence of a narrative standard violation.	pH (high) (A&Wc, FBC, AgL) — since 1998 Dissolved oxygen (A&Wc) — since 1998 Narrative nutrients (A&Wc) — since 1998 TMDL approved by EPA in 2000.	Delist pH, dissolved oxygen, and narrative nutrients and move to Planning List because a TMDL has been completed and approved by EPA in 2000. Currently, in the TMDL strategy implementation phase to bring the lake into compliance with standards.
Roper Lake 25 acres AZ15040005-1250	A&Ww Attaining FC Attaining FBC Inconclusive Part 2 -- Attaining Some Uses Mesotrophic	Add to the Planning List due to missing core parameters.	Arsenic (FBC) — since 1998 Dissolved oxygen (A&Ww) — since 1998 pH (A&Ww, FBC) — since 1998 TMDL investigation completed in 2002 and a report recommending delisting these parameters is being written.	Delist arsenic, dissolved oxygen and pH. Investigations and numerous samples at the lake indicate that: 1. The low dissolved oxygen level is not due to anthropogenic activities but is due to spring sources of water. Such ground water is naturally much lower than surface water standards. and 2. In seven current samples, neither arsenic nor pH exceeded standards; therefore, attaining uses based on these standards.

*See Volume II Table 28, starting on page UG - 7, for more monitoring data and further details concerning the basis of each assessment.

TABLE 26. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – VERDE WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
			STATUS OF THE 1998 303(d) LIST	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Waterbody Name Segment Description Size Waterbody ID	**Assessment 5-Part Listing Lake Trophic Status**	**Pollutants of Concern (Number of Samples Standard exceeded)**	**Pollutants (Designated Use Impaired)**	
VERDE WATERSHED -- STREAM ASSESSMENTS				
Apache Creek headwaters-Walnut Creek 8 miles AZ15060201-019	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to insufficient sampling events		
Beaver Creek Dry Beaver Creek-Verde River 9 miles AZ15060202-002	A&Wc Impaired FC Attaining FBC Inconclusive AgL Attaining Part 5 -- Impaired	Impaired by: turbidity Add to the Planning List due to missing core parameters.	Turbidity (A&Wc) — since 1996 Dissolved oxygen (A&Wc) — since 1996 Ongoing TMDL investigation indicates that low dissolved oxygen is natural and should be delisted. Further investigation of potential turbidity sources.	Keep turbidity on the 303(d) List. Turbidity exceeded standards in 13 samples out of 33 collected. Delist dissolved oxygen. Investigation showed that low dissolved oxygen is naturally occurring due to spring sources of flow and the ground water upwelling is naturally very low is dissolved oxygen.
Bitter Creek Jerome WWTP-2.5 miles below 2 miles AZ15060202-066B	A&Wedw Inconclusive PBC Inconclusive Part 3 -- Not assessed	Add to the Planning List due to insufficient sampling events and lack of current monitoring data. (Only 1 sampling event and need a minimum of 3 events.)		
Unnamed tributary to Bitter Creek headwaters-Bitter Creek 7 miles AZ15060202-868	Part 3 -- Not assessed (All uses are inconclusive by default: A&Ww, FBC, FC, AgI, AgL)	Add to the Planning List due to: 1. Cadmium, copper, pH, and zinc exceedances (see delist recommendation from 303(d) List), and 2. Lack of current monitoring data.	Cadmium (A&Ww, FBC) — 1988 Copper (A&Ww, AgL) — 1988 pH (A&Ww, FBC, AgL) — 1988 Zinc (A&Ww, AgL) — 1988 TMDL investigation initiated in 1999, but have had trouble gaining access to stream on private property.	Delist cadmium, copper, zinc, and pH and add to Planning List. Sufficient monitoring plan not available and some questions concerning whether samples represent in-stream water quality conditions puts older data credibility in question. Need new data.
East Verde River headwaters-American Gulch 36 miles AZ15060203-022A	A&Wc Inconclusive FC Attaining FBC Attaining DWS Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to turbidity not exceeding standards in 7 out of 14 samples. (Minimum of 5 exceedances in 20 samples needed to support a 303(d) listing of this parameter.)		
East Verde River American Gulch-Verde River 38 miles AZ15060203-022B	A&Wc Attaining FC Attaining FBC Attaining DWS Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses			
Ellison Creek headwaters-East Verde River 11 miles	A&Ww Inconclusive FC Inconclusive FBC Inconclusive	Add to the Planning List due to insufficient sampling events and missing core parameters.		

TABLE 26. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – VERDE WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
			STATUS OF THE 1998 303(d) LIST	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Waterbody Name Segment Description Size Waterbody ID	**Assessment 5-Part Listing Lake Trophic Status**	**Pollutants of Concern (Number of Samples Standard exceeded)**	**Pollutants (Designated Use Impaired)**	
AZ15060203-459	AgL Inconclusive Part 3 -- Inconclusive			
Fossil Creek headwaters-Verde River 20 miles AZ15060203-024	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to insufficient sampling events.		
Granite Creek headwaters-15060202-060 29 miles AZ15060202-059	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. *Escherichia coli* standard exceeded in 2 in 5 years (minimum of 2 in 3 years to support 303(d) listing), 2. Beryllium standard exceeded in 1 sample of 6 collected, 3. Turbidity standard exceeded in 1 sample out of 2 collected, and 4. Missing core parameters.		
Munds Creek headwaters-Oak Creek 17 miles AZ15060202-415	A&Ww Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to missing core parameters and insufficient seasonal representation.	Fecal coliform (A&Ww, DWS, AgI, AgL) — since 1994 Nutrients (A&Ww) — since 1994 Nutrient TMDL approved by EPA in 1999.	Delist fecal coliform and nutrients. No fecal coliform exceedances among 15 samples. Wastewater disposal practices were modified in the watershed so that golf course along Munds Creek is not being overly supplied with effluent. TMDL completed in 1999 indicates that nutrient loadings are no longer a problem.
Oak Creek headwaters-West Fork Oak Creek 4 miles AZ15060202-019 (Unique Waters)	A&Ww Inconclusive FC Attaining FBC Attaining DWS Inconclusive AgI Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to turbidity standard exceeded in 1 sample out of 9 collected and missing core parameters.	Phosphorus (A&Wc) — since 1998 Nutrient TMDL approved by EPA in 1999 was completed at request of community to update an old TMDL and indicated no nutrient loading problems.	Delist phosphorus. Listing was based on a calculation error when converting phosphate to total phosphorus. TMDL indicated no nutrient loading problems.
Oak Creek West Fork of Oak Creek-Dry Creek (except for Slide Rock) 24 miles AZ15060202-018B (Unique Waters)	A&Wc Impaired FC Attaining FBC Attaining DWS Attaining AgI Attaining AgL Attaining Part 5 -- Impaired	Impaired by: turbidity	Nutrient TMDL approved by EPA in 1999 was completed at request of community to update an old TMDL and indicated no nutrient loading problems.	Add turbidity to the 303(d) List. Turbidity exceeded standards in 9 samples out of 42 samples collected. (Note that a change in designated use in Arizona's new surface water quality rules based on elevation will bring this reach into compliance. Rules being reviewed by EPA.)
Oak Creek Slide Rock State Park 1 mile AZ15060202-018A (Unique Waters)	A&Wc Inconclusive FC Inconclusive FBC Not attaining DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 4A -- Not Attaining	Add to the Planning List to determine the effectiveness of the TMDL implementation strategies to control bacteria levels in the Slide Rock area of Oak Creek.	*Escherichia coli* (FBC) — since 1994 Fecal coliform (A&Ww, AgI, AgL, DWS) — since 1994 Bacteria TMDL approved by EPA in 1999. (See nutrient TMDL discussion in AZ15060202-018B)	Delist. *Escherichia coli* and fecal coliform and add to the Planning List to determine effectiveness of TMDL implementation strategies.

TABLE 26. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – VERDE WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
			STATUS OF THE 1998 303(d) LIST	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Waterbody Name Segment Description Size Waterbody ID	**Assessment 5-Part Listing Lake Trophic Status**	**Pollutants of Concern (Number of Samples Standard exceeded)**	**Pollutants (Designated Use Impaired)**	
Oak Creek Dry Creek-Spring Creek 10 miles AZ15060202-017 (Unique Waters)	A&Wc Inconclusive FC Attaining FBC Inconclusive DWS Attaining AgI Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to turbidity exceeding standards (see 303(d) delist comment in the far right column).	Turbidity (A&Wc) — since 1990 Nutrient TMDL approved by EPA in 1999 was completed at request of community to update an old TMDL and indicated no nutrient loading problems.	Delist turbidity and add it to the Planning List. Turbidity standard exceeded in 3 samples out of 4 collected. (Minimum of 5 exceedances in 20 samples is needed to support a 303(d) listing of this parameter.)
Oak Creek Spring Creek-Verde River 13 miles AZ15060202-016 (Unique Waters)	A&Wc Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. Turbidity standard exceeded in 1 of 2 samples (see 303(d) delist comment in the far right column), 2. Lacking sampling events, and 3. Missing core parameters.	Turbidity (A&Wc) — since 1990 Nutrient TMDL approved by EPA in 1999 was completed at request of community to update an old TMDL and indicated no nutrient loading problems.	Delist turbidity and add to Planning List. No current data and older turbidity data exceeded standards only in 2 out of 4 samples. (Minimum of 5 exceedances in 20 samples is needed to support a 303(d) listing of his standard.)
Pine Creek headwaters-East Verde River 10 miles AZ15060203-049	A&Wc Inconclusive FC Inconclusive FBC Inconclusive DWS Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to insufficient sampling events to assess (need a minimum of 3 events).		
Pumphouse Wash headwaters-Oak Creek 8 miles AZ15060202-442	A&Wc Inconclusive FC Inconclusive FBC Inconclusive DWS Attaining AgI Attaining AgL Inconclusive Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameters (fluoride and boron).		
Roundtree Creek headwaters-Tangle Creek 11 miles AZ15060203-853	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to insufficient sampling events to assess (need a minimum of 3 events).		
Spring Creek Coffee Creek-Oak Creek 7 miles AZ15060202-022	A&Ww Attaining FC Attaining FBC Inconclusive AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameter (bacteria).		
Sycamore Creek Tule Canyon-Cedar Creek 6 miles AZ15060202-026	A&Wc Inconclusive FC Attaining FBC Inconclusive AgI Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameter (bacteria).		

TABLE 26. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – VERDE WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			303(d) LIST	
			STATUS OF THE 1998 303(d) LIST	RECOMMENDATIONS FOR 2002 303(d) LIST
Waterbody Name Segment Description Size Waterbody ID	**Assessment 5-Part Listing Lake Trophic Status**	**Pollutants of Concern (Number of Samples Standard exceeded)**	**Pollutants (Designated Use Impaired)**	
Sycamore Creek headwaters-Verde River 13 miles AZ15060203-055	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to insufficient sampling events to assess (need a minimum of 3 events).		
Verde River Granite Creek-Hell Canyon 16 miles AZ15060202-052	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to insufficient sampling events to assess (need a minimum of 3 events).		
Verde River Hell Canyon-15060202-065 6 miles AZ15060202-038	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to insufficient sampling events to assess (need a minimum of 3 events).		
Verde River 15060202-065-Railroad Draw 11 miles AZ15060202-037	A&Ww Inconclusive FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to turbidity exceedances (see 303(d) delist comment in the far right column). When the TMDL is approved by EPA, TMDL will begin the implementation and monitoring phase.	Turbidity (A&Ww) — since 1990 Turbidity TMDL approved by EPA in 2002.	Delist turbidity and add to Planning List. Turbidity exceeded standards in 4 out of 15 samples. (Minimum of 5 exceedances in 20 samples needed support 303(d) listing.) (See turbidity TMDL comment)
Verde River Sycamore Creek-Oak Creek 25 miles AZ15060202-025	A&Ww Attaining FC Attaining FBC Attaining AgI Attaining AgL Attaining Part 1 -- Attaining All Uses		Turbidity (A&Ww) — since 1990 Turbidity TMDL approved by EPA in 2002.	Delist turbidity. No exceedances in 26 samples (attaining uses).
Verde River Oak Creek-Beaver Creek 13 miles AZ15060202-015	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to insufficient sampling events to assess (need a minimum of 3 events).		
Verde River 15060203-West Clear Creek 6 miles AZ15060203-027	A&Ww Attaining FC Attaining FBC Inconclusive AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameter (bacteria).	Turbidity (A&Ww) — since 1994 Turbidity TMDL approved by EPA in 2002.	Delist turbidity. No exceedances in 6 samples collected. Older turbidity data exceeded turbidity standard in only 3 samples out of 22 collected. Both old and new data show that turbidity is not impairing designated uses.
Verde River	A&Ww Inconclusive	Add to the Planning List due to:		

TABLE 26. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – VERDE WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
			STATUS OF THE 1998 303(d) LIST	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Waterbody Name Segment Description Size Waterbody ID	**Assessment 5-Part Listing Lake Trophic Status**	**Pollutants of Concern (Number of Samples Standard exceeded)**	**Pollutants (Designated Use Impaired)**	
West Clear Creek-Fossil Creek 24 miles Az15060203-025	FC Attaining FBC Inconclusive AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	1. Turbidity standard exceeded in 4 samples out of 9 collected and 2. *Escherichia coli* standard exceeded in 1 of 9 samples.		
Verde River Tangle Creek-Ister Flat 4 miles AZ15060203-018	A&Ww Inconclusive FC Attaining FBC Attaining DWS Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to: 1. Turbidity standard exceeded in 4 samples out of 21 samples, and 2. Missing core parameter (bacteria).		
Verde River Bartlett Dam-Camp Creek 7 miles AZ15060203-004	A&Ww Attaining FC Attaining FBC Inconclusive DWS Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameter (bacteria).		
Webber Creek headwaters-East Verde River 14 miles AZ15060203-058	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to insufficient sampling events to assess (need a minimum of 3 events).		
West Clear Creek headwaters-Verde River 65 miles AZ15060203-026	A&Wc Attaining FC Attaining FBC Inconclusive AgL Attaining Part 2 -- Attaining Some Uses	Add to the Planning List due to missing core parameter (bacteria).		
West Fork of Oak Creek headwaters-Oak Creek 16 miles AZ15060202-020	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to insufficient sampling events to assess (need a minimum of 3 events).		
Wet Beaver Creek Long Canyon-Rarick 7 miles AZ15060202-004	A&Wc Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive	Add to the Planning List due to: 1. Dissolved oxygen did not meet standards in 2 samples out of 7 collected, and 2. Missing core parameters.	Turbidity (A&Wc) — since 1996 Ongoing TMDL investigation on Wet Beaver Creek and downstream on Beaver Creek.	Delist turbidity. No exceedances of the turbidity standard in 11 samples (attaining uses).
Wet Bottom Creek headwaters-Verde River 20 miles AZ15060203-020	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgL Inconclusive	Add to the Planning List due to: 1. Insufficient sampling events to assess (need a minimum of 3 events), and		

TABLE 26. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – VERDE WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			303(d) LIST	
			STATUS OF THE 1998 303(d) LIST	RECOMMENDATIONS FOR 2002 303(d) LIST
Waterbody Name Segment Description Size Waterbody ID	**Assessment 5-Part Listing Lake Trophic Status**	**Pollutants of Concern (Number of Samples Standard exceeded)**	**Pollutants (Designated Use Impaired)**	
	Part 3 -- Inconclusive	2. Missing core parameters.		
VERDE WATERSHED -- LAKE ASSESSMENTS				
Bartlett Lake 2375 acres AZL15060203-0110	A&Ww Attaining FC Attaining FBC Inconclusive DWS Attaining AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses Mesotrophic	Add to the Planning List due to missing core parameter (bacteria).	Dissolved oxygen (A&Ww) — since 1996 Turbidity (A&Ww) -- since 1996 TMDL investigation and monitoring conducted. A report supporting this delist recommendation has been prepared.	Delist dissolved oxygen and turbidity. Only 2 dissolved oxygen samples out of 29 did not meet dissolved oxygen standard (attaining uses). Investigation showed that turbidity exceedances were temporary and caused by with upstream releases from Horseshoe Lake. Such releases are exempt from turbidity standards (R18-11-118A).
Granite Basin Lake 7 acres AZL15060202-0580	A&Ww Inconclusive FC Attaining FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 2 -- Attaining Some Uses Eutrophic	Add to the Planning List due to: 1. Dissolved oxygen and pH exceedances (see 303(d) delist recommendations in the far right column), and 2. Missing core parameters.	Dissolved oxygen (A&Ww) — since 1998 pH (A&Ww, FBC, AgI, AgL) — since 1998 Ongoing TMDL investigations	Delist dissolved oxygen and pH and add to Planning List. Dissolved oxygen did not meet standard in 3 samples out of 7 collected and pH did not meet standards in 1 sample out of 8. (Minimum of 5 exceedances in 20 samples is needed to support a 303(d) listing of for either parameter.)
Green Valley Lake 13 acres AZL15060203-0015	A&Ww Inconclusive FC Inconclusive PBC Inconclusive Part 3 -- Inconclusive Trophic status not calculated	Add to the Planning List due to missing core parameter (bacteria) and insufficient monitoring events (need a minimum of 3).		
Horseshoe Lake 2000 acres AZL15060203-0620	A&Ww Inconclusive FC Inconclusive FBC Inconclusive AgI Inconclusive AgL Inconclusive Part 3 -- Inconclusive Trophic status not calculated	Add to the Planning List due to: 1. Dissolved oxygen not meeting standards in 1 sample out of 1 sample collected and 2. Insufficient sampling events.		
Pecks Lake 95 acres AZL15060202-1060	A&Wc Not attaining FC Attaining FBC Inconclusive AgI Attaining AgL Attaining Part 4A -- Not attaining Eutrophic	Add to the Planning List to evaluate effectiveness of dissolved oxygen and pH TMDL implementation strategies.	Dissolved oxygen (A&Wc) — since 1998 pH (A&Wc, FBC, AgI) — since 1998 EPA approved the nutrient, pH, and dissolved oxygen TMDLs in 2000.	Delist dissolved oxygen and pH due to approved TMDL and add to the 303(d) List for monitoring TMDL implementation effectiveness.
Stehr Lake 20 acres AZL15060203-1480	A&Ww Inconclusive FC Attaining FBC Inconclusive AgL Attaining Part 2 -- Attaining Some Uses Trophic status not calculated	Add to the Planning List due to missing bacteria samples. Note that with the decommissioning of the power plant on Fossil Creek and the removal of the flumes and Fossil Creek Dam, the source of water for this lake is expected to disappear.		

TABLE 26. ASSESSMENT, PLANNING LIST, AND 303(d) STATUS TABLE – VERDE WATERSHED				
2002 ASSESSMENT AND PLANNING LIST			**303(d) LIST**	
			STATUS OF THE 1998 303(d) LIST	**RECOMMENDATIONS FOR 2002 303(d) LIST**
Waterbody Name Segment Description Size Waterbody ID	**Assessment 5-Part Listing Lake Trophic Status**	**Pollutants of Concern (Number of Samples Standard exceeded)**	**Pollutants (Designated Use Impaired)**	
Stoneman Lake 125 acres AZL15060202-1490	A&Wc Not attaining FC Attaining FBC Not attaining AgI Not attaining AgL Not attaining Part 4A -- Not Attaining Eutrophic	Add to the Planning List to determine the effectiveness of narrative nutrient, dissolved oxygen, and pH TMDL implementation strategies.	Dissolved oxygen (A&Wc) — since 1998 pH (A&Wc, FBC, AgI, AgL) — since 1998 Narrative nutrients — since 1998 EPA approved the nutrient, pH, and dissolved oxygen TMDLs in 2000. Implementation of TMDL strategies is ongoing.	Delist dissolved oxygen, pH, and narrative nutrients and add to Planning List to schedule for TMDL strategy implementation effectiveness monitoring.
Sullivan Lake 1 acres AZL15060202-3370	A&Ww Inconclusive FC Attaining FBC Inconclusive AgI Attaining AgL Attaining Part 2 -- Attaining Some Uses Trophic status not calculated	Add to the Planning List due to: 1. pH not meeting standards in 1 sample out of 3 samples collected, and 2. Missing core parameters.		
Whitehorse Lake 41 acres AZL15060202-1630	A&Ww Inconclusive FC Attaining FBC Inconclusive DWS Attaining AgI Attaining AgL Inconclusive Part 2 -- Attaining Some Uses Hypereutrophic	Add to the Planning List due to: 1. Dissolved oxygen standard not met in 5 of 11 samples , 2. pH standard not met in 3 samples of 12 samples collected, 3. Turbidity standard exceeded in 11 samples of 11 collected (see 303 delist comment for turbidity in far right column), 4. Fish kill in 1999 related to algal bloom and low dissolved oxygen which may be evidence of a narrative standard violation, and 5. Missing core parameters (Note: need a minimum of 5 exceedances in 20 samples to add dissolved oxygen, pH or turbidity to the 303(d) List.)	Turbidity (A&Wc) — since 1998	Delist turbidity and add to Planning List. Turbidity exceeded standards in 11 samples out of 11 collected, but need a minimum of 5 exceedances in 20 samples to support a 303(d) listing for this parameter.

*See Volume II Table 31, starting on page VD - 7, for more monitoring data and further details concerning the basis of each assessment.

The 2002 303(d) Submission to EPA

The list of the impaired surface waters which must be submitted to EPA in October 2002 is included in this section **(Table 27)**. The list identifies, by surface water segment, the pollutants or surface water characteristics not meeting surface water quality standards. The table also indicates the priority ranking for completion of each TMDL and which TMDLs will be targeted for initiation within the next two years (per A.A.C. R18-11-606). EPA must approve this list and has the authority to add or remove surface waters from the list based on the federal Clean Water Act, regulations, or policies.

How TMDLs are conducted and the success of Arizona's TMDL Program is discussed in Chapter VII. Completed TMDLs are highlighted by watershed in Volume II of this report.

Why do We List These Waters? – The 303(d) List is a list of all impaired waters that require more than existing technology and permit controls to achieve or maintain surface water quality standards. The objective is to systematically identify impaired surface waters and the pollutant(s) causing the impairment and ultimately establish a scientifically-based strategy (a TMDL) for restoring the surface water quality.

Priority Ranking and Scheduling TMDLs – The Clean Water Act and federal regulations (40 CFR 130.7) require the state to establish a priority ranking for each surface water on the 303(d) List. Arizona's ranking system reflects the relative value and benefits of each surface water to the state and considers, among other factors:

- The severity of the impairment in relation to the designated uses, especially threats to human health, aquatic life and wildlife;
- Surface waters where endangered or threatened species exist and the pollutant is likely to further jeopardize the listed species;
- Other pertinent information such as: economic or aesthetic importance, the complexity of the TMDL, degree of public interest, permitting issues, an impending change in water quality standard or designated use, and date when the surface water was first placed on the 303(d) list.

Arizona's Impaired Waters Identification rule **(Appendix B)** provides specific factors which must be considered in prioritizing and scheduling impaired surface waters for TMDL development. These factors are listed as footnotes at the end of **Table 27**. As a surface water may have a mixture of high, medium, and low priority factors, the final priority ranking considers all factors but weights some factors more heavily than others. **Table 27** indicates which factors were applied, which were weighted more heavily, and provides a brief discussion of the final priority ranking determination.

In general, the surface water was automatically listed as <u>high priority</u>, and ADEQ will initiate development of the associated TMDL within two years following EPA's approval of the 303(d) List, if there is a substantial threat to health and safety of humans, aquatic life, or wildlife. This determination was based on the following four factors:

- The magnitude of the exceedance. For example, the laboratory result was more than twice the standard.
- The duration or persistence of the problem. For example, more than half the samples exceeded standards.
- The standard was established to protect human health or wildlife from imminent harm. For example, the acute toxic Aquatic and Wildlife standards are established based on short-term exposures rather than long-term or life-time exposures.
- A Threatened or Endangered species (T&E species) may be further jeopardized by the water quality problem. This was determined by using the following information provided by the Arizona Game and Fish Department and the US Fish and Wildlife Service:
  - A. A T&E species has been confirmed within a mile of the surface water listed or the surface water is within "critical habitat" established for the species;
  - B. A standard to protect aquatic and wildlife has been exceeded, and
  - C. The published reasons for decline and vulnerability of the species indicate that the pollutant or source of the exceedance may further jeopardize this species.

Several <u>low priority</u> factors can take precedence over high priority factors because completing a TMDL at this time would either not be appropriate, be premature, or be an inefficient use of resources. These factors included:

- ADEQ has formally submitted to EPA a proposal to delist the surface water or pollutant.
- ADEQ has adopted a new surface water quality standard or designated use that is currently being reviewed by EPA for approval. When approved, the standard would no longer be violated.
- The surface water is expected to attain surface water quality standards

before the next listing cycle due to:

- Recently instituted treatment levels or best management practices in the drainage area,
- Discharges or activities related to the impairment have ceased, or
- Actions have been taken and the controls are in place or firmly scheduled for implementation that are likely to bring the surface water back into compliance.

· The water quality problem can be resolved only through the cooperative actions of an agency outside the state or federal jurisdiction (e.g., Mexico, another state, or Indian reservation).

It may become necessary to shift priority ranking of a surface water due to significant changes in resources to complete TMDLs or new information obtained concerning one of the priority factors. Such changes would be negotiated with EPA and would be made known to the public through the TMDL status page on ADEQ's web site: http://www.adeq.state.az.us/environ/water/assess/tmdl.html.

As noted in **Table 27**, new designated uses and new standards have been adopted by Arizona and submitted to EPA for approval in 2002. The turbidity and fecal coliform standards are being repealed and replaced by new standards. When adopted, the surface waters that had exceedances for beryllium and fluoride will be in compliance with the new standards. However, in most cases more monitoring is needed to determine whether the new suspended sediment concentration standard (replacing the turbidity standard) and the new *Escherichia coli* standard (replacing the fecal coliform standard) are being met. All waters listed as exceeding turbidity or fecal coliform standards will be monitored under ADEQ's Targeted Monitoring Program during the next watershed rotation (five years) to determine if the new standards are being met.

Public Participation in the Listing Process – Communicating with the public and promoting public input into the 303(d) listing process is an integral component of ADEQ's water quality management programs. A 30-day public review of this draft report was provided in June 2002. A copy of the report was posted on ADEQ's web site, notices were placed in six local newspapers throughout the state (Phoenix, Tucson, Flagstaff, Sierra Vista, Yuma, and St. Johns), and flyers concerning the public review were mailed to a list of interested persons. Copies of the report were available on CD, in hard copy, or as an electronic download from the Internet.

The response to comments and the draft 303(d) List was published in the Arizona Administrative Register on August 9, 2002, according to Arizona Revised Statue 49-232. Publication of the list in the Arizona Administrative Register is an appealable agency action and may be appealed by any party that submitted written comments on the draft list. If a notice of appeal of a listing occurs within the 45-day publication period in the Arizona Administrative Register, ADEQ cannot include the challenged listing in its initial submission to EPA until the listing is upheld in ADEQ's Director or if the challenge is withdrawn.

EPA Action on the Methods and List Approval – EPA provided comments on the Impaired Waters Identification Rule **(Appendix B)** which establishes Arizona's listing methodology, but EPA does not have authority to approve of this rule. EPA will consider the methods established in this rule when it reviews the 303(d) List Arizona submits. EPA may cite any deficiencies it raised in comments as a factor in a decision to disapprove all or part of Arizona's 303(d) List.

Within 30 days of receipt of a completed listing package, EPA must act on a state's list and priority ranking. EPA may approve or disapprove the entire list or disapprove only deficient portions. If it disapproves of a portion, EPA must within 30 days identify corrections (i.e., surface waters, pollutant(s), priority rankings) needed to make the list consistent with EPA regulations. EPA must notify the public of its decision in the *Federal Register* and in a newspaper of general circulation and request public comment. At the end of the comment period, EPA will evaluate public comments and compile a revised list. This corrected list would be sent back to Arizona to be incorporated into the water quality management plans and used as Arizona's approved 2002 303(d) List.

Table 27. 2002 303(d) List TMDL Priority Ranking and Schedule

(Submission to EPA for approval in October 2002)

Surface Water Identification	Pollutant	Year First Listed	H 1 *	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
Bill Williams Watershed																											
Boulder Creek headwaters-Wilder Creek 29 miles AZ15030202-006	Fluoride	2002											X			**X**				X	X	X				Medium priority. Although there are three low priority factors (the stream reach has intermittent flow (L4), the stream is remote and the fluoride standard was based on lifetime exposures and ingestion during swimming (L5), and more data and information is needed to identify sources (L6)), ADEQ will initiate this TMDL because to make efficient use of resources as staff will be monitoring TMDL effectiveness in the lower segment of Boulder Creek in 2004/2005.	Monitor 2004-2005. Initiate TMDL in 2006
Boulder Creek Wilder Creek-Copper Creek 3 miles AZ15030202-005A	Arsenic	1988						X					X		X	**X**				X	X					Medium priority. [NOTE: Investigations indicate that arsenic impairs the entire reach, while copper and zinc impairment occurs only between Wilder Creek and Butte Creek (below the upper tailings pile).] Boulder Creek has intermittent flow (L4) and arsenic poses a low human-health threat on this remote stream which has nominal recreation (L5); however, copper and zinc present a significant threat to wildlife (H1) due to the toxic nature of these pollutants and the magnitude of the exceedances as follows: * Dissolved copper has been measured as high as 14,400 µg/L (220 times higher than the aquatic and wildlife standard); * Dissolved zinc has been reported as high as 115,000 µg/L (300 times higher than the aquatic and wildlife standard). BLM is pursuing clean up of an abandoned mine site on this reach which is a major source of the pollutants and is supporting the development of this TMDL for all three parameters (H6). The Arizona State Land Department is interested in developing a remediation plan for contamination on property owned by that agency; ADEQ is working with the Land Department on potential funding for such projects. Arsenic, copper, and zinc TMDLs are in progress and should be ready to submit to EPA fall 2002 (M6).	Complete TMDL in 2002
	Copper	1988	**X**					X					X		X	X				X							
	Zinc	1988	**X**					X					X		X	X				X							
Alamo Lake 1,414 acres AZL15030204-0040	Dissolved oxygen	2002				**X**		**X**	**X**																	High priority. Low dissolved oxygen and high pH have the potential to lead to fish kills which will jeopardize a food source for the bald eagle (a federally-listed Threatened species in this area) (H4) and the significant sport fishery in this lake (H7). The Corps of Engineers is considering changes in dam operation to improve downstream habitat, and timely completion of the TMDL could assist in making management decisions (H6). ADEQ will begin preliminary investigation in 2003.	Initiate TMDL in 2003
	pH (high)	1996				**X**		**X**	**X**		X																
	Sulfide	1996				X		X	X									**X**								Low priority. A change in the sulfide standard has been	NA -- New standard will be

Surface Water Identification	Pollutant	Year First Listed	H 1 *	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
																										submitted to EPA. If approved, it will apply to epilimnion layer (top) of the lake only, resulting in Alamo Lake meeting this standard (L2).	met
Colorado-Grand Canyon Watershed																											
Colorado River Parashant-Diamond Creek 28 miles AZ15010002-003	Turbidity	1998			X										X			**X**			X	X	X	X		Low priority. ADEQ has submitted a change in standards to EPA that would replace the turbidity standard with a suspended sediment concentration standard (L2). Samples need to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. Turbidity does not pose a significant threat to human or aquatic life in this naturally turbid stream (L5, L8), even though the river is federally protected as a scenic river (H3). Recent studies and dam releases have occurred because the river is not carrying sufficient suspended solids (L5). The TMDL investigation may indicate that a site-specific standard is needed due to naturally high levels of turbidity (L6). Tribal holdings in the drainage basin (L7) and long travel distance for collecting samples make completing this TMDL more complex (M5).	Begin monitoring for new standard in 2004 as part of the watershed rotation.
Virgin River Beaver Dam Wash-Big Bend Wash 10 miles AZ15010010-003	Turbidity	1990													X			**X**				X				Low priority. ADEQ has submitted a change in standards to EPA that would replace the turbidity standard with a suspended sediment concentration standard (L2). Samples need to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. A TMDL is rated as complex as a major portion of the river drainage is in Utah and will require extensive coordination (M5).	Begin monitoring for new standard in 2004 as part of the watershed rotation.
	Fecal coliform	2002	**X**						**X**		X				X			X				X				High priority. Bacterial contamination of the stream presents a potential public health threat as the local community uses this reach for swimming/recreational purposes and the standard was developed for human-health protection of even short term exposures (H1, H7). ADEQ has submitted a change in standards to EPA that would replace the fecal coliform standard with a stricter *Escherichia coli* standard; however, there is insufficient *E. coli* data available to determine whether the new standard will be met. More data is needed to identify sources (L6). TMDL is complicated by a major portion of the river drainage being in Utah, the distance for collecting samples and the short holding times for bacteria samples (M5, M6). More than one designated use is impaired by not meeting this standard (M1).	Begin monitoring for new standard and TMDL development in 2004 as part of the watershed rotation.
Colorado-Lower Gila Watershed																											
Painted Rocks Borrow Pit	Dissolved	1992																			X			X		Low priority.	2007 Update

Surface Water Identification	Pollutant	Year First Listed	H 1 *	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
Lake 180 acres AZL15070201-1010	oxygen																									A 1992 diagnostic feasibility study by ADEQ investigated the causes of low dissolved oxygen. That study indicated that low dissolved oxygen is due to design and maintenance of this shallow lake and suggested strategies to improve water quality. Drought conditions have reduced lake levels and may be related to some of the low dissolved oxygen readings (L8). The lake is no longer being stocked with fish and does not have recreational uses because of historic pesticide contamination and fish consumption advisories (L5).	report and determine need for TMDL as part of the watershed rotation.
	Fecal coliform	2002									X							**X**			X	X				Low priority. There is no public access, thus the public health risk due to bacterial contamination is significantly reduced (L5). ADEQ has submitted a change in standards to EPA that would replace the fecal coliform standard with a stricter *Escherichia coli* standard (L2). There is insufficient *E. coli* data available to know if that standard will be met (L6). More than one designed use is impaired by not meeting this standard (M1).	Begin monitoring for new standard in 2007 as part of the watershed rotation.
Little Colorado-San Juan Watershed																											
Little Colorado River Porter Tank-McDonalds Wash 17 miles AZ15020008-017	Copper	1992	**X**					X							X	X						X		X		High priority. Copper and silver TMDLs are a high priority due to the toxic nature of these heavy metals and the frequency they were exceeded (9 out of 11 samples exceeded the copper standard, and 2 out of 9 samples exceeded the silver standard) (H1). Data was from a USGS study concluded that the metals may be naturally elevated (L8); however, sources and natural loading concentrations need to be further studied (L6). The Little Colorado River Multiple Objective Management watershed group is interested in this TMDL (H6). The TMDL investigation is on ADEQ's work plan for 2003 (M6) in 2003, but the nature of these pollutants make this study very complex (M5).	Initiate TMDL in 2003
	Silver	1992	**X**					X							X	X						X		X			
Middle Gila Watershed																											
French Gulch headwaters-Hassayampa River 10 miles AZ15070103-239	Copper	1994	**X**								X		X		X	**X**				X						High priority. Although this reach is ephemeral (L4), copper, manganese, and zinc pose a significant threat to wildlife which may drink pools remaining after monsoon rains or winter storms (H1) and due to the toxic nature of these pollutants and the magnitude and duration of the exceedances as follows: * Dissolved copper was measured as high as 1200 µg/L (almost 20 times the aquatic and wildlife standard), and exceeded the standards in 80 of 135 samples (60%); * Manganese was measured as high as 47,700 µg/L (approximately 2.5 times the standard) and was exceeded in 96 of 140 samples (70%); * Dissolved zinc was measured as high as 2260 µg/L (almost 6 times the aquatic and wildlife standard), and exceeded standards in 36 of 170 samples (20%). The TMDL investigation is on	TMDL study ongoing in 2003. Anticipate completion in 2004.
	Manganese	1994									X	X	X		X	**X**				X							
	Zinc	1994	**X**										X		X	**X**				X							

Surface Water Identification	Pollutant	Year First Listed	H 1 *	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
																										ADEQ's work plan for 2003 (M6); however, the TMDL is expected to be very complex due to the nature of the pollutants (M5) and seasonal variation (M3).	
Gila River Centennial Wash-Gillespie Dam 5 miles AZ15070101-008	Boron	1992							X				X		**X**							X				Medium priority. This TMDL will be complex due to large number of potential sources (e.g., irrigation return flows, wastewater dischargers) and seasonal influences (M5, M3, L6). Boron may negatively impact agricultural crop production (H7); however, ADEQ is unaware of any documented impacts. Although the federally listed Yuma clapper rail has been sighted in this reach, boron levels are not exceeding the aquatic and wildlife water quality standard.	Initiate TMDL in 2005
Hassayampa River headwaters-Copper Creek 11 miles AZ15070103-007A	Zinc	1992	**X**			**X**							X		X	X										High priority. Zinc poses a significant wildlife threat due to the toxic nature of this pollutant as zinc exceeded standards in 3 of the 3 samples collected in this reach (H1). The zinc TMDL has completed public review process and will be submitted to EPA by September, 2002. This Phase I TMDL was complicated by the nature of the pollutant (M5) and the relationship between concentration levels and storm water runoff at abandoned mining operations (M3). A federally listed threatened species, the Mexican spotted owl, occurs in this area and could be further jeopardized by drinking from standing pools after rain events (H4).	Expect to complete TMDL in 2002
Mineral Creek Devils Canyon-Gila River 10 miles AZ15050100-012B	Beryllium	1992																**X**	X	X	X					Low priority. ADEQ has submitted a change in the beryllium standard to EPA that would bring this reach into compliance with the new standard (L2). When approved, the fish consumption standard would change from 0.21 µg/L to 1130 µg/L (L5). (See other actions discussed below -- (L3, L4))	NA -- New standard will be met
	Copper	1992	X			X							X		X				**X**	X						Low priority. Although the pollutants pose a significant risk to public health and wildlife due to their toxicity, magnitude of exceedances and frequency of exceedances (H1) (H4), a TMDL is not needed at this time due to other actions being taken to bring the stream into compliance with standards (L3). The mining operation has entered into a consent decree with EPA and has instituted actions that will bring the surface water back into compliance with applicable water quality standards. The mine monitors multiple sites on a monthly basis to evaluate the effectiveness of its actions. Further enforcement actions will be taken if compliance is not attained per consent decree (L3). Complex TMDLs to determine source loadings on this intermittent stream are not needed at this time (M3, M5, L4).	Ongoing monitoring to determine effects of corrective actions. Fixed station monitoring site on Gila River immediately downstream of Mineral Creek.
	pH	1992	X			X					X		X		X				**X**	X							
	Zinc	1992	X			X							X		X				**X**	X							
Queen Creek headwaters-Superior Mine	Copper	2002											X		**X**					X		X				Medium priority. A copper TMDL will be complex (M5) due to	Targeted monitoring in

Surface Water Identification	Pollutant	Year First Listed	H 1 *	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
WWTP 9 miles AZ15050100-014A																										intermittent flows (L4), the nature of the pollutant (M5) and the probability that contamination is related to storm water runoff events (M3). The copper listing is based on only two exceedances in five samples and exceedances are just above standards; more samples are needed to identify sources and evaluate the extent of contamination (L6).	2003; assess need for TMDL in 2004
Turkey Creek headwaters-Poland Creek 30 miles AZ15070102-036	Cadmium	1992	X					X					X	X	X	X				X						High priority. Cadmium, copper, and zinc pose a significant threat to wildlife due to the toxic nature of these pollutants, and the magnitude and frequency of exceedances as follows (H1): * Dissolved cadmium was measured as high as 931 µg/L (8 times the standard), and exceeded standards in 2 of 5 samples (40%).; * Dissolved copper was measured as high as 13,600 µg/L (200 times the standard) and exceeded standards in 3 of 5 samples (60%); * Dissolved zinc was measured as high as 158,000 µg/L (more than 400 times the standard) and exceeded standards in 3 out of 5 samples. Forest Service is supporting the development of this TMDL and are developing plans to remediate mine waste piles along this reach (H6). The TMDL investigation is on ADEQ's 2003 work-plan (M6) but is complex due to the nature of metals and the length of the listed stream segment (30+ miles). Metal contamination may be localized, exceedances are storm dependent, and flow is intermittent (M3, M5, and L4).	TMDL study ongoing in 2003; anticipate completion in 2004
	Copper	1992	X					X					X	X	X	X				X							
	Zinc	1992	X					X					X	X	X	X				X							
Salt Watershed																											
Christopher Creek headwaters-Tonto Creek 8 miles AZ15060105-353	Turbidity	2002																X			X	X				Low priority. ADEQ has submitted a change in standards to EPA that would replace the turbidity standard with a suspended sediment concentration standard (L2, L5). Samples need to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. Turbidity monitoring is currently occurring in support of other TMDL efforts.	Begin monitor for new standard in 2007 as part of the watershed monitoring cycle.
Tonto Creek headwaters-Haigler Creek 17 miles AZ15060105-013	Turbidity	2002																X			X	X				Low priority. ADEQ has submitted a change in standards to EPA that would replace the turbidity standard with a suspended sediment concentration standard (L2, L5). Samples need to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. Turbidity monitoring is currently occurring in support of other TMDL efforts.	Begin monitor for new standard in 2007 as part of the watershed monitoring cycle.
Tonto Creek Rye Creek-Gun Creek 5 miles AZ15060105-008	Turbidity	1990																X			X	X				Low priority. ADEQ has submitted a change in designated use to EPA, changing the use from a cold water fishery to a warm water fishery. When approved the turbidity standard would be met (L2, L5). ADEQ	Begin monitor for new sediment standard in 2007 as part of

Surface Water Identification	Pollutant	Year First Listed	H 1 *	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
																										has also submitted a change in standards to EPA that would replace the turbidity standard with a suspended sediment concentration standard (L2, L5) (see discussion for Tonto and Christopher Creeks above).	the watershed monitoring cycle.
San Pedro-Willcox Playa-Rio Yaqui Watershed																											
Mule Gulch headwaters-WWTP Bisbee 4 miles AZ15080301-090A	Copper	2002	X										X		X	**X**				X				X		Medium priority. TMDLs are underway to address loadings on both segments of Mule Gulch and tributaries contributing significant loading. These TMDLs are complex due to the wastewater discharges, slope, intermittent and ephemeral flows, lack of rain, and natural background levels of copper (M3, M5, L4, L8). Currently ADEQ is developing site specific standards that account for loadings from naturally occurring conditions (M6, L8). The mining operation in the affected segments is implementing and continuing the develop additional Best Management Practices to address contamination issues. Copper, zinc, and low pH present a significant threat to wildlife and human health (H1) due to the toxic nature of these pollutants and the magnitude and frequency of the exceedances: * Dissolved copper was as high as 12,000 μg/L (185 times the aquatic and wildlife standard) and exceeded standards in 20 of 36 samples (55%) in Mule Gulch; * Dissolved zinc was as high as 3760 μg/L (10 times the aquatic and wildlife standard) and exceeded standards in 14 of 36 samples (39%) in Mule Gulch; * This area is a documented corridor for Mexican migrant traffic. Every summer migrants die of thirst crossing Arizona's desert and may drink from reaches of Mule Gulch with flow. Consumption of this water would be hazardous as the copper levels were up to 78 times the surface water standard for domestic water source (1000 μg/L). Cadmium and zinc would also exceed these DWS standards (cadmium = 5 μg/L and zinc = 2100 μg/L).	Site-specific standard development 2003; reassess TMDL in 2004
	Zinc	2002	X										X		X	**X**				X				X			
Mule Gulch WWTP Bisbee- Whitewater Draw 8 miles AZ15080301-090B	Copper	1990	X										X		X	**X**				X				X			Site-specific standard development 2003; reassess TMDL in 2004
	Low pH	1990	X								X		X		X	**X**				X				X			
	Zinc	1990	X										X		X	**X**				X				X			
San Pedro River Dragoon Wash-Tres Alamos 16 miles AZ15050202-002	Nitrate	1990												X	X				**X**							Low priority. The ADEQ WQARF (Superfund) Program is working with this site. The facility has instituted several actions to bring the surface and ground water into compliance with its standards and is conducting monthly monitoring of several sites along the San Pedro River (L3, M4). Although surface water quality is improving, cleanup will take time as there is significant contamination of the ground water which is seeping into the San Pedro (M5).	Targeted monitoring in 2004 to determine effect of corrective actions and need for TMDL
Santa Cruz-Rio Magdalena-Rio Sonoyta Watershed																											
Alum Gulch	Cadmium	1996	**X**			**X**							X		X	X				X						Medium priority.	Expect to

Surface Water Identification	Pollutant	Year First Listed	H 1 *	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
headwaters-ephemeral Wash 2 miles AZ15050301-581A	Copper	1996	X			X							X		X	X				X						Although this is an intermittent reach (L4), cadmium, copper and zinc contamination is a significant threat to wildlife and human health (H1) due to the toxic nature of these pollutants and the magnitude and frequency of exceedances as follows: * Dissolved copper was as high as 2,000 µg/L (30 times the aquatic and wildlife standard) and exceeded standards in 9 of 10 samples (90%). * Dissolved cadmium was as high as 220 µg/L (almost twice the aquatic and wildlife standard) and exceeded standards in 8 of 10 samples (80%). * Dissolved zinc was as high as 56,000 µg/L (150 times the aquatic and wildlife standard) and exceeded standards in 10 of 10 samples (100%) A federally listed threatened species, the Mexican spotted owl, occurs in this area and could be further jeopardized by these pollutants if drinking from standing pools after rain events (H4). This is a complex TMDL due to the nature of the pollutants (M5), exceedances are tied to runoff events (M3), natural background issues, and intermittent flow (L4). A TMDL is in progress and is expected to be submitted to EPA in 2002 (M6).	complete TMDL in 2002
	Zinc	1996	X			X							X		X	X				X							
Harshaw Creek headwaters-ephemeral segment 10 miles AZ15050301-025A	Zinc	1988	X			X							X		X	X				X						Medium priority. Although this is an intermittent reach (L4), zinc contamination is a significant threat to wildlife and human health (H1) due to the toxic nature of these pollutants and the magnitude and frequency of exceedances as follows: * Dissolved zinc was as high as 860 µg/L (more than twice the aquatic and wildlife standard) and exceeded standards in 4 of 9 samples (about 45%). * A federally listed threatened species, the Mexican spotted owl, occurs in this area and could be further jeopardized by these pollutants if drinking from standing pools after rain events (H4). This is a complex TMDL due to the nature of the pollutants (M5), exceedances are tied to runoff events (M3), natural background issues and intermittent flow (L4). A TMDL is in progress and is expected to be submitted to EPA in 2002 (M6).	Expect to complete TMDL in 2002
Nogales & East Nogales Wash Mexico border-Portrero Wash 6 miles AZ15050301-011	Chlorine	1996	X																	X			X			Medium priority. Although fecal coliform and chlorine are a significant threat to human health and wildlife (H1), actions to correct the situation are dependent on ongoing international negotiations between the U.S. government, Arizona, Mexico, the cities of Nogales, AZ and Nogales, Sonora and the Mexican state of Sonora (L7). Wastewater infrastructure in Mexico is badly deteriorated and must be replaced. Chlorine is sometimes added directly to the stream on the U.S. side of the border due to raw sewage overflows from Mexico. The source loadings are known and the technical means to correct the problem have been determined. Despite the potential public health concerns, international efforts require extensive negotiations and have experienced lengthy delays (L7). Completing a TMDL in this intermittent wash	Ongoing quarterly monitoring a fixed station. Begin monitoring for new standards in 2003.
	Fecal coliform	1998	X								X							X		X		X	X				

Surface Water Identification	Pollutant	Year First Listed	H 1 *	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
																										(L4) would not further the process at this time. The medium priority ranking is an acknowledgment of this social-political disparity. ADEQ has submitted a change in standards to EPA that would replace the fecal coliform standard with a stricter *Escherichia coli* standard (L2). There is insufficient *E. coli* data available to know if that standard will be met.	
	Turbidity	1994													X			**X**		X		X	**X**			Low priority. ADEQ has submitted a change in standards to EPA that would replace the turbidity standard with a suspended sediment concentration standard (L2, L5). Samples need to be collected from this reach and tributaries that feed this intermittent reach (L4) to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration (M5).	Begin monitoring for new standard in 2003
Portrero Creek I-10 - Santa Cruz River 5 miles AZ15050301-500B	Fecal coliform	2002	**X**								**X**							X		X		X	**X**			Medium priority. This intermittent creek (L4) receives fecal contamination from Nogales Wash at levels that are a threat to human health (H1); however, factors concerning international negotiations and lengthy delays (L7) (discussed above in reach 15050301-011) affect completion of a TMDL. ADEQ has submitted a change in standards to EPA that would replace the fecal coliform standard with a stricter *Escherichia coli* standard (L2). There is insufficient *E. coli* data available to know if that standard will be met.	Monitor for new standard in 2003
Santa Cruz River Mexico border-Nogales Intl WWTP 17 miles AZ15050301-010	Escherichia coli	2002	**X**					**X**							X					X		X	X			High priority. Completing this TMDL is a high priority because of potentially serious human health concerns (H1) for the following reasons: 1)These bacteria are indicators of fecal contamination which may include pathogens (e.g. typhoid, giardia). Some pathogenic diseases require very short contact with the water; 2) *E. coli* was measured as high as 10,000 colony forming units (CFU) (17 times the standard of 580 CFU); and 3) This area is a corridor for Mexican migrant s, who may consume or bathe in this water while crossing the desert, although the water is not protected for this use. The Friends of the Santa Cruz River, a volunteer monitoring group, are interested in maintaining high quality water in the Santa Cruz River (H6). Completing this TMDL will be complex (M5) because the probable sources are in Mexico (L7), intermittent flows (L4) the current drought will make sampling challenging, and the need for more data to identify source loads (L6).	Targeted monitoring in 2003; determine need for TMDL in 2004 (Long-term fixed station network monitoring site at the border.)
	Fecal coliform	2002	**X**					X			**X**				X			X		X		X	**X**			Medium priority. ADEQ has submitted a change in standards to EPA that would replace the fecal coliform standard with a stricter *Escherichia coli* standard (L2). (See E. coli listing above). A TMDL would be complex (M5) due to potential sources in Mexico (L7) and	Begin monitoring for new standard along with targeted monitoring in

Surface Water Identification	Pollutant	Year First Listed	H 1 *	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
																										intermittent flows (L4).	2003
Santa Cruz River Nogales WWTP-Josephine Canyon 9 miles AZ15050301-009	Fecal coliform	2002	**X**					X			**X**							X				X	**X**			Medium priority. Although fecal coliform may indicate pathogenic contamination of the water (H1) and this is a corridor for Mexican migrants (see comments in reach 15050301-010) (H1) , ADEQ has submitted a change in standards to EPA that would replace the fecal coliform standard with a stricter *Escherichia coli* standard (L2) as *E coli* is more closely associated with pathogens. There is insufficient *E. coli* data available to know if the new standard will be met (L6). The source of the *E. coli* is believed to be the Nogales International Wastewater Treatment Plant. The US and Mexican State Departments continue to negotiate construction and operation of an upgraded facility (see discussion in Nogales Wash) (L7). The Friends of the Santa Cruz, a volunteer monitoring group, is interested in having high quality water (H6) as the Santa Cruz River is used for recreational purposes in this reach (H7). If the sole source of contamination is the treatment plant, completion of a TMDL would have limited value as the plant upgrade would resolve the issues. ADEQ will continue monitoring along with other investigations in the area. The medium ranking is an acknowledgment of the social-political stalemate for this segment.	Begin monitoring for new standard in 2003 (long-term FSN site)
Santa Cruz River Josephine Cyn-Tubac Bridge 5 miles AZ15050301-008A	Fecal coliform	2002	**X**					X	X		**X**							X				X	**X**			Medium priority. NOTE: See comments in reach number 15050301-009 above.	Begin monitoring for new standard in 2006 as part of the watershed rotation.
	Turbidity	2002				**X**		X	X						X			**X**				X	**X**			Medium priority. ADEQ has submitted a change in standards to EPA that would replace the turbidity standard with a suspended sediment concentration standard (L2). Samples need to be collected from this ephemeral stream and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration (M5). A federally listed endangered species, the Gila topminnow, has been sighted in this reach and may be further jeopardized by the causes of the turbidity (H4). The Friends of the Santa Cruz River, a volunteer monitoring group, are interested in efforts to improve water quality in the river (H6) as this segment of the river is used for recreational purposes (H7).	Begin monitoring for new standard in 2006 as part of the watershed monitoring cycle.
Santa Cruz River Tubac Bridge-Sopori Wash 9 miles AZ15050301-008B	Fecal coliform	2002	**X**			X		X			**X**							X				X	**X**			Medium priority. NOTE: See comments in reach number 15050301-009 above.	Begin monitoring for new standard in 2006 as part of the watershed monitoring cycle.

Surface Water Identification	Pollutant	Year First Listed	H 1 *	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
Three R Canyon headwaters-ephemeral segment 5 miles AZ15050301-588A	Cadmium	1994	X			X							X		X	X				X						Medium priority. Although this is an intermittent reach (L4), cadmium, copper and zinc contamination is a significant threat to wildlife and human health (H1) due to the toxic nature of these pollutants and the magnitude and frequency of exceedances as follows: * Dissolved copper was as high as 89,000 µg/L (1370 times the aquatic and wildlife standard) and exceeded standards in 10 of 10 samples (100%). * Dissolved cadmium was as high as 143 µg/L (1.25 times the aquatic and wildlife standard) and exceeded standards in 8 of 10 samples (80%). * Dissolved zinc was as high as 2790 µg/L (7 times the aquatic and wildlife standard) and exceeded standards in 9 of 10 samples (90%). * A federally listed threatened species, the Mexican spotted owl, occurs in this area and could be further jeopardized by these pollutants if drinking from standing pools after rain events (H4). This is a complex TMDL due to the nature of the pollutants (M5), that exceedances being tied to runoff events (M3), natural background issues and intermittent flow (L4). A TMDL is in progress and is expected to be submitted to EPA in 2002 (M6).	Expect to complete TMDL in 2002
	Copper	1994	X			X							X		X	X				X							
	Zinc	1994	X			X							X		X	X				X							
Upper Gila Watershed																											
Gila River Bonita Creek-Yuma Wash 6 miles AZ15040005-022	Turbidity	1996				X									X			X				X				Medium priority. ADEQ has submitted a change in standards to EPA that would replace the turbidity standard with a suspended sediment concentration standard (L2). Samples needs to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. A federally listed threatened species, the Loach minnow, is in this reach and may be sensitive to turbidity exceedances or causes associated with turbidity (H4). This TMDL is complex because the upper drainage is in New Mexico (M5). A recently published fluvial geomorphology study on the Gila River in New Mexico may support this TMDL analysis.	Begin monitoring for new standard in 2005
San Francisco River Limestone Gulch-Gila River 13 miles AZ15040004-001	Turbidity	1992													X			X				X				Low priority. ADEQ has submitted a change in standards to EPA that would replace the turbidity standard with a suspended sediment concentration standard (L2). Samples need to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration (L2, M5).	Begin monitoring for new standard in 2005
Verde Watershed																											
Beaver Creek																										Medium priority.	Begin targeted

Surface Water Identification	Pollutant	Year First Listed	H 1 *	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
Dry Beaver Creek-Verde R. 9 miles AZ15060202-002	Turbidity	1996				**X**		X							X			**X**				X				ADEQ has submitted a change in standards to EPA that would replace the turbidity standard with a suspended sediment concentration standard (L2). Samples need to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. Two federally listed threatened and/or endangered species have been sighted in this reach, the Spikedace and the Southwest willow flycatcher. The Spikedace may be sensitive to excessive turbidity (H4).	monitoring in 2003; evaluate need for TMDL 2004
Oak Creek West Fork of Oak Cr.-Dry Cr. 24 miles AZ15060202-018B	Turbidity	2002																**X**								Low priority. ADEQ has submitted a change in designated use to EPA, changing the use from a cold water fishery to a warm water fishery (L2). When approved, sample results indicate that the turbidity standard would be met. (ADEQ has also submitted a change in standards to EPA that would replace the turbidity standard with a suspended sediment concentration standard (L2)).	NA – New standard will be met

X = Factor present. **X** = most significant factors. Note that factors that frequently out rank others are shown with an asterisk (*).

** Date shown is when action is to be initiated. Time table will be adjusted based on availability of flowing water, as Arizona is currently in a drought, and availability of resources to complete TMDLs.

High Priority Factors:

H1. Substantial threat to health and safety of humans, aquatic life, or wildlife based on:
- a. Number and type of designated uses impaired,
- b. Type and extent of risk from the impairment to human health or aquatic life,
- c. Pollutant causing the impairment, or
- d. Severity, magnitude, and duration the surface water quality standard was exceeded.

H2. An new or modified individual NPDES or AZPDES permit is sought for discharge to the impaired water.
H3. Surface water is listed as a Unique Water or is part of an area classified as a “wilderness area”, “wild and scenic river” or other federal or state special protection of the water resource.
H4. Surface water contains a species listed as “threatened” or “endangered” under the federal Endangered Species Act and the presence of the pollutant in the surface water is likely to jeopardize the listed species.
H5. A delay in conducting the TMDL could jeopardize ADEQ’s ability to gather sufficient credible data necessary to develop the TMDL.
H6. There is still significant public interest and support for development of a TMDL.
H7. The surface water or segment has important recreational and economic significance to the public.
H8. The pollutant has been listed for eight years or more (starting with the 2002 listing).

Medium Priority Factors:

M1. The surface water fails to meet more than one designated use.
M2. The pollutant exceeds more than one surface water quality standard.
M3. The exceedance is correlated to seasonal conditions caused by natural events such as storms, weather patterns, or lake turnover.
M4. It may take more than two years for proposed actions in the watershed to result in the surface water attaining applicable water quality standards.
M5. The type of pollutant and other factors relating to the surface water or segment make the TMDL very complex.
M6. ADEQ’s administrative needs, including TMDL schedule commitments with EPA, permitting needs, or basin priorities that require completion of the TMDL.

Low Priority Factors:

L1. ADEQ has formally submitted a proposal to delist the surface water or pollutant to EPA. If ADEQ makes the submission outside of listing process cycle, the change in priority ranking will not be effective until EPA approves the report.

L2. ADEQ has modified or formally proposed a modification to the applicable surface water quality standard or designated use which would result in the surface water no longer being impaired, but the modification has not yet been approved by EPA.

L3. The surface water is expected to attain surface water quality standards due to any of the following:

a. Recently instituted treatment levels or best management practices in the drainage area,
b. Discharges or activities related to the impairment have ceased, or
c. Actions have been taken and the controls are in place or scheduled for implementation that are likely to bring the surface water back into compliance.

L4. The surface water is ephemeral or intermittent. ADEQ shall re-prioritize the surface water if the presence of the pollutant in the listed water poses a threat to the health and safety of humans, aquatic life, or wildlife using the water (H1) or the pollutant is contributing to the impairment of a downstream, perennial surface water.

L5. The pollutant poses a low ecological and human health risk.

L6. Insufficient data exists to determine the source of the pollutant load.

L7. The uncertainty of timely coordination with national and international entities concerning international waters.

L8. Naturally occurring conditions are a major contributor to the impairment.

L9. No documentation or effective analytical tools exist to develop a TMDL for the surface water with reasonable accuracy.